C
K13aEwa
c.2

HISTORY OF KANSAS STATE AGRICULTURAL COLLEGE

LIBRARY OF THE
UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

IN MEMORY OF
STEWART S. HOWE
JOURNALISM CLASS OF 1928

STEWART S. HOWE FOUNDATION

C
K13aEwa
cop.2

The person charging this material is responsible for its return to the library from which it was withdrawn on or before the **Latest Date** stamped below.

Theft, mutilation, and underlining of books are reasons for disciplinary action and may result in dismissal from the University.

UNIVERSITY OF ILLINOIS LIBRARY AT URBANA-CHAMPAIGN

JUN 29 1978

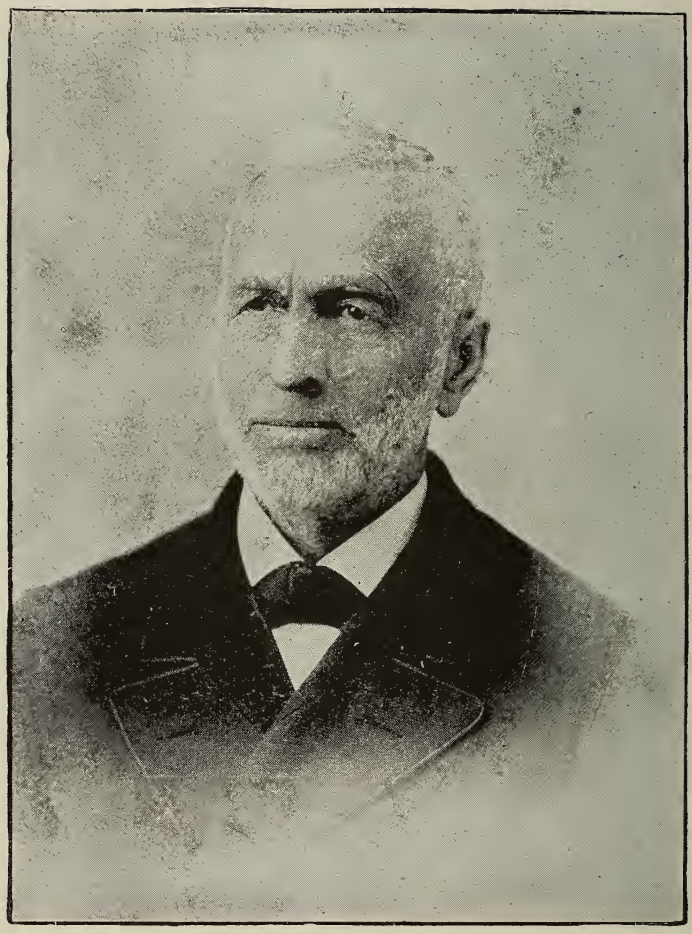
JUN 7 1978

L161—O-1096


Digitized by the Internet Archive
in 2013

http://archive.org/details/historyofkansass00walt

With Compliments
of the Author
Dr. J. D. Wells



REV. JOSEPH DENISON, D. D.

President of Bluemont College and First President of the Kansas State Agricultural College.

HISTORY

OF THE

Kansas State Agricultural College

BY

DR. J. D. WALTERS

PROFESSOR OF ARCHITECTURE AND DRAWING IN THE
KANSAS STATE AGRICULTURAL COLLEGE

1909

PRINTED BY
PRINTING DEPARTMENT OF THE
KANSAS STATE AGRICULTURAL COLLEGE

I am telling my friends in Massachusetts a very bitter thing: I have become bolder and bolder in saying that I am under the impression that the whole system of popular education is superannuated; that what is taught is no longer the food that the rising generations most want; and that the very knowledge that is taught is not the best. I would change both its substance and the methods.—LOUIS AGASSIZ.

C
K13a Ew

Foreword.

It will soon be half a century since the Kansas State Agricultural College was founded and located. For a new State, and one that made history as fast as the trans-Missourian countries did, this is a long period. Many of the men to whose efforts the people of Kansas owe this magnificent institution of learning—the largest school of its kind in America—have left to conquer other territories, some have followed more remunerative callings than that of the educator, and many have died. The semi-centennial now close at hand will find but few of the pioneers in health and vigor. If a history including the valuable element of personal recollection was to be written, the work could not be deferred much longer.

This volume is really a fifth revised and enlarged edition of an historic monograph originally written by the author for the Riley County Map Book, published in 1881. The second sketch was written for the U. S. Bureau of Education in 1890. The third was published as a 76-page pamphlet, entitled "Columbian History of the Kansas State Agricultural College," of which a special edition of 4000 copies was distributed at the Columbian Exposition at Chicago in 1893, and the fourth appeared as a contribution to volume VII of the Transactions of the Kansas State Historical Society. Each succeeding effort meant a considerable increase in pages and a more complete and correct representation of the facts.

These historic sketches were read by many who "had been there," and there were all kinds of comments. The author expects that there will be exceptions to some of the statements in this volume, but, whatever the criticisms may be, he can say that he has told the story as he saw it, that he has tried to be clear and concise, and that he has verified uncertain data by comparing them with the publications and archives of the College, the files of the newspapers of Manhattan, and the collections of the Kansas State Historical Society.

Considerable space has been reserved for chronological tables and law quotations. It is hoped that while those paragraphs are dry reading they will be found valuable as references.

The author regrets that the available time fragments which he devoted to work on this volume did not permit the publication of the biographies of a much larger number of the "Makers of the College." The book should contain the life stories of at least a hundred educators and public men, who contributed their best efforts to found and rear the great technical school at Manhattan, in place of only thirty-three. It should preserve for the future Kansan the character sketches of Governors Harvey and Green, Reverend Reynolds, Gen. J. K. Hudson, Regents Forsyth, Lemmon, Adams, Purcell, Secrest, J. Wheeler, R. P. Kelley, Hoffman, etc., and of Professors Miller, Detmers, Platt, A. Todd, A. A. Stewart, Hood, Mason, Brown, White, Mayo, Otis, Erf, Burkett, and many others, not to mention a score or more who are still at work on the grand structure whose foundation was laid half a century ago by Senator Justin A. Morrill, of Vermont. May a sharper pen—one less hampered by a lengthy program of daily routine tasks—extend the work outlined in these pages, and gather up the interesting material before it is distorted by time or entirely lost. History begets loyalty and patriotism.

Manhattan, May, 1909. J. D. WALTERS.

Table of Contents.

I.

THE RISE AND GROWTH OF AGRICULTURAL EDUCATION—AGRICULTURAL SOCIETIES—AGRICULTURAL FAIRS—AGRICULTURAL PUBLICATIONS—THE U. S. DEPARTMENT OF AGRICULTURE—THE AGRICULTURAL COLLEGE IDEA—THE PIONEER AGRICULTURAL COLLEGE—THOUSANDS OF STUDENTS AND MANY METHODS—THE EXPERIMENT STATIONS—THE FARMERS' INSTITUTE—THE GROWTH OF SCIENCE.

DURING the colonial days agriculture and the mechanic arts grew slowly and did not reach a high state of development. For many generations the implements were of the coarsest kind, differing little from those used by the Indian. Life was a constant struggle for mere existence. Up to the middle of the eighteenth century iron and shaping tools had to be imported from England, and Indian corn, milk, pork, beef, game and fish were the common food. There was little commerce and communication away from the coast. Agricultural education was not thought of, though even before the revolution there had been feeble attempts at agricultural journalism and agricultural meetings of a social character. During the revolution, and the twenty years following, all energies were bent upon organizing a strong government and better intercommunication. Congress coined money, adopted a system of measures and weights, developed the postal service, established a military and naval school, but it overlooked food production and the industrial arts. "In 1784 the commerce of the country was so insignificant that eight bales of cotton, shipped from South Carolina, were seized by the custom authorities of England on the ground that so large a quantity could not have been produced in the United States." It was not until the beginning of the last century that farmers, as a class, commenced to recognize the importance of comparing methods of work, seeds, stock, and other interests, and began to feel the need of more information for themselves and better schools for their children.

AGRICULTURAL SOCIETIES.

Among the earliest contributors to agricultural education and rural interests must be mentioned the agricultural and horticultural societies. Many of these early corporations shed light for several generations, and are still in existence. The first society for the promotion of agriculture was established in Philadelphia, March 1, 1785. Of this society President Washington was a member. Seven years later, on March 7, the Massachusetts Society for Promoting Agriculture was incorporated. The New York Agricultural Society was organized the following year. An agricul-

tural society was established in South Carolina probably in the fall of 1785. One of its objects was the establishment of an experimental farm. In 1803 the Western Society of Middlesex Husbandmen, formed in 1794, was incorporated, with a provision that members of the Massachusetts society should be honorary members. Voluntary agricultural associations were established at Sturbridge in 1799, at Kennebec in 1791, and at Brookfield in 1807. The horticultural societies were but little behind. That of New York, organized in 1818, was the first of its kind in the United States; then came that of Pennsylvania, organized in 1827, and that of Massachusetts two years later. The American Horticultural Society, first known as the American Congress of Fruit Growers, and later as the American Pomological Society, was organized in 1884. The Kansas State Horticultural Society was incorporated December 15, 1869, that of Manhattan, January 24, 1874, and the National Agricultural Society on December 10, 1879.

AGRICULTURAL AND INDUSTRIAL FAIRS.

Another potent factor in the development of agriculture was the fair, or exposition. It is reported that the Agricultural Society of Massachusetts commenced the award of premiums for agricultural products in 1804. The first regular stock show in New England seems to have been held in 1807. "In the autumn of that year Elkanah Watson, a native of Plymouth and a direct descendant of Governor Winslow, who in 1624 had brought the first 'neat cattle that came into New England,' procured the first pair of Merino sheep which had been introduced into Berkshire. Colonel Humphrey, of Connecticut, formerly minister to Spain, had imported seventy-five ewes and twenty-seven rams in 1802, and one Seth Adams had two Merino sheep imported from France. Mr. Watson gave notice of a public exhibition of his two sheep on the public square of Pittsfield. He wrote: 'Many farmers and even females were attracted to this first novel and nimble exhibition. From this lucky incident I reasoned thus: If two animals are capable of exciting so much attention, what would be the effect of a display on a large scale of different animals? The farmers present responded to my remarks with approbation. We thus became acquainted, and from that moment to the present have agricultural fairs and cattle shows, with all their connections, predominated in my mind.' On the 1st of August, 1810, an appeal drawn by Mr. Watson and signed by twenty-six different persons appointed an exhibition of stock on the 1st of October. This effort was successful, and resulted in a charter of the Berkshire Agricultural Society the ensuing winter of 1811. In the Septem-

ber following a formal and extended festival was held with 'a procession of sixty-nine oxen drawing a plow held by the oldest man in the country, a band of music, the society bearing appropriate ensigns, each member decorated with a badge of two heads of wheat in his hat, and the officers three heads secured by a green ribbon.' Mr. Watson, as president, delivered an address and awarded the premiums."

It is interesting to read of these first attempts at organizing an institution which in our days has developed into such stupendous undertakings as the Centennial Exposition, the Fat Stock Shows of Chicago and Kansas City, the World's Fairs at Chicago and St. Louis, the Trans-Mississippi Exposition at Omaha, or the Kansas State Fair, the latter of which as early as 1883 had been able to boast of an attendance of nearly 100,000 people, and it is to be regretted that the real purpose of these agricultural and industrial fairs was not kept in the foreground.

AGRICULTURAL PUBLICATIONS.

Much credit is due to the agricultural press. The pioneer agricultural journal, the *American Farmer*, issued its first number in 1819, and is still being published. The *New England Farmer* appeared in 1822, and the *Kansas Farmer* was established in 1863. To-day the number of periodicals devoted to agriculture and the kindred arts, as horticulture, floriculture, landscape gardening, cattle, horses, swine and sheep breeding, poultry and bee keeping, sugar, cotton and tobacco planting, etc., must reach the six hundred mark in America.

THE DEPARTMENT OF AGRICULTURE.

Another motor working for the development of farming has been the United States Department of Agriculture, established in in 1837, as a branch of the United States patent office, afterwards as an independent sub-department and lately as a separate cabinet. A distribution of seeds and plants through a congressional appropriation was begun in 1839. This continued to be a function of the patent office until 1862, when the United States Department of Agriculture was established. But the greatest step in the development of agricultural art was the establishment of agricultural schools and experiment stations.

THE AGRICULTURAL COLLEGE IDEA.

Toward the middle of the eighteenth century the agricultural college idea began to appear. In the patent office report for 1847, Mr. C. L. Fleischman published an elaborate report on agricultural schools, which he had visited abroad, and urged the organization

of similar schools in this country. The writings of the great German chemist, Baron Von Liebig, on scientific agriculture and the rich contents of the proceedings of the Royal Agricultural Society of England were being republished in our agricultural and scientific periodicals. Railroads and steamships commenced to do the work of transportation in place of the ox, the horse, the canal-boat and the sailing vessel, and through these effective carriers farming was drawn into the galaxy of regular business enterprises, demanding not only hard labor, but management, foresight, and knowledge. Progressive farmers began to feel that the common school as it existed was entirely inadequate for teaching the scientific and technical education required in their work, and discussions pertaining to the establishment of special schools of agriculture similar to those of central Europe, especially those of Holland, Germany and Switzerland, became more and more frequent.

The first legislative efforts in America of organizing an agricultural college were made in Massachusetts. A bill providing for the organization of an agricultural school and the establishment of an experiment station passed the Senate of that state in 1850, but was defeated in the House. The defeat of this bill provoked much comment in agricultural circles, and resulted in the appointment of a board of commissioners who were to consider further steps in the matter and report at the next session. In 1852 their report, with an elaborate account of the organization and work of the agricultural schools of Europe visited by Professor Hitchcock, was made to the legislature.

But the time was not favorable for the teaching of practical science. No immediate action resulted from their recommendations, except, perhaps, the establishment of a state board of agriculture; yet the matter was not permitted to rest. Massachusetts became a center of the agitation which finally triumphed in Congress in the passage of the "Morrill act," an act appropriating several millions of acres of wild land to the different states and territories for the purpose of founding agricultural colleges. This act became a law in 1862.

THE PIONEER AGRICULTURAL COLLEGE.

The honor of founding and maintaining the first institution of learning on the continent whose sole object should be the teaching of agriculture and agricultural science belongs to the energetic state of Michigan. The constitution of Michigan, adopted in 1850, directed the legislature to encourage agricultural improvement and to provide for the establishment of an agricultural school. In

obedience to this direction, the legislature in 1855 authorized officers of the state agricultural society to select, subject to the approval of the state board of education, a site near Lansing for the school, and to purchase for it not less than 500 nor more than 1000 acres of land. It appropriated twenty-two sections of land, or the money arising from their sale, for the purchase of land, erection of buildings, and the payment of necessary expenses. A tract of land was selected about three miles from Lansing, and the erection of buildings commenced. In May, 1857, the college went into operation, with a faculty of six teachers and an attendance of sixty-one students—the first agricultural school of any kind on this continent.

During the early years of its existence the new college underwent severe trials. The buildings had been poorly constructed and required expensive repairs and additions; efficient instruction could not be afforded; the curriculum was in an unsettled state; the old education was on the war-path and refused to give way to new ideas, and the question whether the institution should continue to afford a general education or be so modified as to offer professional training alone was vigorously debated. In 1859 the advocates of the latter idea were victorious, and the course of instruction was cut down from four years to two. The first agricultural college in America had not yet graduated one student when its young life was already in danger from irreconcilable differences of opinion as to how it should be run. In 1861 a state board of agriculture was created, partly for the management of the state agricultural college. The board consisted of six appointed members, with the governor of the state and the president of the college as members *ex-officio*. Half of them were to be practical farmers. Their term of service was to be six years, two going out of office every second spring. This reorganization of the board was the cause of new disagreements. The purpose, scope and sphere of agricultural education required definition, and the tinkering with "rules and regulations" commenced once more. This time the course of study was lengthened to four years; women were excluded from the course, and the afternoons of five days each week were devoted to labor by the active student body. The college provided a dormitory with suitable board for all students, and cottages for the professors. These details are mentioned here because the Michigan Agricultural College was the first practical school of the kind in America. When the Morrill act was passed, in 1862, two additional institutions had been founded—the Maryland Agricultural College and the Pennsylvania Agricultural College, both organized in 1859.

THOUSANDS OF STUDENTS.

The year 1870 found agricultural colleges in nearly every state in the Union, though some of the southern states, owing to their adherence to the now-exploded notion of state rights, were very slow in accepting the magnificent federal land grant. The fifty or more agricultural colleges founded under this act have not all been highly successful. Some states organized high-grade university courses in pure science, tinted with applied work, and made it impossible for the young man or young woman from the rural school to enter their courses without several years of intervening high-school or preparatory work. They aimed at educating scientists and teachers rather than farmers. Other agricultural colleges were connected with existing universities and became "literary kites with agricultural tails," as Pres. John A. Anderson used to style them. Others fooled away their heritages to speculators and land grabbers, receiving but little of the proceeds and remaining too poor to do their work. Some of the colleges, however, did as well as the advocates of the passage of the Morrill act could have hoped for. The total attendance of the land-grant colleges of America in 1903 was 50,799, and the number of teachers 4012.

THE EXPERIMENT STATION.

These agricultural colleges contributed to the growth of scientific agriculture not only through the education of thousands of farmers' sons and farmers' daughters, but they developed agricultural science itself. Their laboratories and experimental farms gradually became the recognized fountains of agricultural knowledge.

Much valuable work had been done in many lines of experiments in New York, Michigan, Wisconsin, California and other states before 1887, when the government came again to their aid. The passage by Congress in that year (1887) of the so-called "Hatch bill" provided for the organization in each state agricultural college of a station for agricultural experiments, by appropriating annual contributions of $15,000. This gift, amounting in the aggregate to three-quarters of a million dollars per year, distributed equally over the broad area of the country, gave an impetus to agricultural science which was bound to result not only in valuable investigations and practical results, but in giving the heterogeneous elements of the college faculties a distinctly scientific color—it settled, to a considerable extent, the old disputes between the humanistic and realistic factions. The past decade has proven the great value of these stations, and it may

confidently be asserted that the harvest will be greater in the future. It is probably true that the large number of experimenters who were called into service by the passage of the Hatch bill had very primitive conceptions of the purpose, scope and value of agricultural experiments, that there were many useless repetitions of such work and much unscientific tinkering and show making, but on the whole the experiment stations have fulfilled the high expectations of their founders. The station reports furnish the most valuable topics for the agricultural press, and the station bulletins are being distributed broadcast over the farming districts of all states and territories.

THE FARMERS' INSTITUTE.

Another factor which, during the last twenty years, has contributed much to elevate the standard of actual farming and to beget enthusiasm for rural pursuits is the farmers' institute. In some of the western states the institute was inaugurated by the agricultural college, and, though it is not originally a creation of this, it has become a valuable means of direct intercourse of the farmer and professor. Farmers' institutes were held in several eastern states for twenty years before the advent of the agricultural college and experiment station. In the early seventies institutes became common in eastern Kansas and programs covering from three to five days were given in Manhattan. Some years ago the state of Wisconsin inaugurated a new movement by establishing farmers' institutes in every senatorial district and paying for the work by a special legislative appropriation. Kansas followed during the winter of 1898 by appropriating $2000 for the actual expenses incurred by the College in holding such institutes. This work has done much for the development of a better system of farming, yet it must not be overlooked that the farmer who has received but little scientific training cannot be benefitted to a great extent by ready-made scientific facts. The youths from the farms must first find in the schools of agriculture some stimulant to scientific thoughtfulness. The results of research and experiment can be accepted and utilized by those only whose training has somehow fitted them for such appreciation and adaptation to present wants. In agriculture, especially, the judgment needed to adopt and adapt to varying conditions any improvement depends upon previous familiarity with a multitude of relations. The problems of agriculture are too infinitely varied to be grasped and understood by the untutored mind.

THE GROWTH OF SCIENCE.

To the items mentioned in the preceding paragraphs should be added all the general instrumentalities of progress: the rapid development of better means of communication and transportation, the enormous increase of home and foreign consumption, the growth of the manufacturing industries, the invention of the processes of curing and preserving, the perfection of nearly every implement and tool, the importation and propagation of stock, cereals, vegetables, and fruit, and last but not least the growth of the common school and the phenomenal revelations of modern science. Sixty years ago there was but little known of many of the phenomena of life. The great thought that all species were but twigs of the same tree had not been formulated, and there was no conception of the possibilities of seed breeding and stock breeding. Nothing was known of bacteriology and the real nature of the contagious diseases. Fermentation and decay were ascribed to chemical affinities. No one dreamed of the great law of the indestructibility of force and of the perfect application of all physical laws to organic life. To-day the rays of scientific discovery are penetrating everything, and total "illiteracy" is becoming rare among the growing generation.

Main Entrance to Campus.

II.

BLUEMONT CENTRAL COLLEGE.

THE Kansas State Agricultural College owes its location and initiative momentum to the pioneers of Manhattan. The city was founded in 1855 by the coöperation of two colonies—one from New England, arriving March 24, and one from Cincinnati, arriving June 1. Among the members of the New England colony were several college graduates, and it is stated that the founding of a college was discussed and decided upon during the voyage, long before reaching the objective point of the expedition, the confluence of the Big Blue and Kaw rivers.

From necessity the project had to be deferred for a while, but it was not abandoned. As early as 1857, when the buffaloes were yet numerous in the northern part of Riley county, and less than three summers had bleached the roof of the first house west of the Blue river, an association was formed to build a college in or near Manhattan, to be under control of the Methodist Episcopal Church of Kansas, and to be called "Bluemont Central College."

The charter was approved February 9, 1858. It provided for the establishment of a classical college, but contained the following (in the light of future history) interesting section:

> The said association shall have power and authority to establish, in addition to the literary department of arts and sciences, an agricultural department, with separate professors, to test soils, experiment in the raising of crops, the cultivation of trees, etc., upon a farm set apart for the purpose, so as to bring out to the utmost practical results the agricultural advantages of Kansas, especially the capabilities of the high prairie lands.

The leading members of the association were: Rev. Joseph Denison, D. D., afterwards President of the College; Isaac T. Goodnow, elected State superintendent in 1862, reëlected in 1864; Rev. W. Marlatt, now a model farmer on College Hill; S. C. Pomeroy, afterwards United States senator.

A site of 100 acres was selected for the institution upon the rising ground about one mile west from the town, and the title secured by special act of Congress introduced and fathered by Senator Pomeroy. The Cincinnati Town Company promised liberal aid in town lots and town stock, but coupled their promise with the illiberal clause that the aid should not be delivered until the college association could show property to the amount of $100,000. The New England Town Company gave 50 shares of stock in the

north half of Manhattan, representing 100 city lots. I. T. Goodnow, assisted by Doctor Denison, sold these, and by personal solicitation here and in the East obtained funds for a building. Many of the founders must have taxed themselves quite heavily. G. S. Park (one of the builders of Parkville, Mo.), S. D. Houston, Joseph Denison, John Kimball, J. S. Goodnow, I. T. Goodnow and Washington Marlatt gave $300 each, which were princely gifts when measured by the financial condition of these pioneers. The whole amount of cash collected from all sources at the time amounted to $4000.

The corner-stone was laid with elaborate ceremony, May 10, 1859, with speeches from General Pomeroy and others, and the institution was opened for the reception of students about one year thereafter. It was a poor time and place, however, for building up a college. The squatters had nothing to give, the students were scarce, the Methodist Episcopal Church of the territory had two other educational institutions to support, and the country was disturbed by the bloody preambles of the War of the Rebellion. The first annual report of the institution to the Kansas and Nebraska Methodist Episcopal Conference gives the names of 53 pupils, under the charge of Rev. Washington Marlatt as the principal teacher and Miss Julia A. Bailey as the assistant. The salary of Reverend Marlatt for 1860 was $600, and was to be paid in Bluemont city town lots—lots that never had a more than nominal value. No wonder that he complained: "The labor of teaching is great enough for two persons, while the income is barely sufficient to pay the board for one." (Records of Bluemont College, October 24, 1860).

Upon the admission of Kansas as a state, January 29, 1861, the founding of a State University became a probability, and the trustees of Bluemont College, represented by Hon. I. T. Goodnow, were nearly successful in locating that institution at Manhattan by offering their building for this purpose. On March 1 the measure passed both Houses of the Legislature, but met with a veto from Gov. Charles Robinson, who was determined that the State University or the State capital should go to Lawrence. Robinson was willing to barter with the delegates from Manhattan and their friends, if they would assist him to get the Statehouse for his own town, but the Manhattan delegation had already pledged themselves for Topeka; they refused to change their adhesion, and lost the State University for Bluemont.

A little over a year later another chance presented itself for the College to become a State institution. When, on July 2, 1862, the

"agricultural college act" was passed by Congress, the trustees offered it once more to the Legislature, and this time the offer was accepted. The donation, at the time it was made, consisted of 100 acres of land, a plain three-story stone building measuring 44x60 feet and containing in the third story a chapel with a curved ceiling, a library of several hundred volumes, and some illustrative apparatus. The total valuation of the property was probably in the neighborhood of $25,000.

The gift to the State of the property of Bluemont College was a liberal one; yet, like many such gifts, it had several strings tied to it that made its acceptance of doubtful value. It prevented the State from removing the institution from the particular piece of land upon which it was located, and forced the College into a tedious lawsuit twenty years later, when a removal became positively necessary. The worst feature of the bargain, however, was of a different character. It seemed proper that the donators of Bluemont—officers and members of the Faculty—should be retained in the transformation of the classic college into a technical school. The Methodist conference of Kansas-Nebraska assumed the right for many years to dictate the appointment of the members of the Board of Regents, and received annual reports from the officers as if there had been no transfer of property of any kind. History, English literature, Latin, Greek, French, German, psychology, etc., formed the bulk of the course of instruction of the more advanced classes, while the lower classes did common-school work of the most primitive character. In other words, the metamorphosis of the classical college into a technical school did not become complete by the passage of the agricultural college act; it took over a dozen years to accomplish it.

The act referred to is "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," giving to each state lands to the amount of 30,000 acres for each senator and representative in Congress, for "the endowment, support and maintenance of at least one college" for the benefit of "agriculture and the mechanic arts." The bill was passed by Congress in 1859, but was vetoed by President James Buchanan under the pressure of the States Rights party. In 1862 the act was again passed, and the pen that wrote the proclamation of emancipation—the death warrant of American slavery—approved it.

III.

THE MORRILL ACT AND THE ENDOWMENT.

THE so-called Morrill act, to which the Kansas State Agricultural College owes its existence and endowment, was passed in a most critical period of our national life, and its history is interesting to the student of American institutions from more than one point of view.

The annexation of territory, as the result of the war with Mexico, had added millions of acres of wild land to the large public domain of the United States. At the time of the election of James Buchanan to the presidency, the national government still had at its command, with constitutional right of disposal, nearly a billion and a half acres. It had not yet squandered an empire to scheming railroad companies, though petitions began to pour in begging for grants for various public and private interests. Agricultural societies throughout the Union, seemingly in concerted action, followed the clamoring multitude by asking for the donation of public lands to the states for the purpose of agricultural education. The agitation took formal shape as early as 1852, when the legislature of Massachusetts passed a resolution asking Congress for a grant of lands for the purpose of promoting a "National Normal College," as they styled it; and similar propositions, urging that the nation should promote scientific instruction in agriculture, in order to preserve the chief industry of the country, soon came from many sides. It was claimed that the prevailing methods of agriculture were rapidly exhausting the soil, while weeds, insect pests, blights and mildews were overrunning gardens, fields, and orchards.

In 1858, memorials were presented in Congress from the Kentucky and New York agricultural societies, and from the legislatures of New York, California, and Missouri, praying for lands for educational purposes in state agricultural colleges. Hon. Justin A. Morrill, of Vermont, in speaking of this subject before the House of Representatives, on April 20, 1858, said: "There has been no measure for years which has received so much attention in the various parts of the country as the one now under consideration, so far as the fact can be proved by petitions which have been received from various states, north and south, from state societies, county societies, and from individuals. Petitions have come in almost every day from the commencement of the session."

The bill then before Congress, granting land to the states for

agricultural colleges, upon which Mr. Morrill spoke these words, was almost identical with the one which became a law four years later. It was introduced and brought to its passage in the House. The main difference between it and the one which finally won success was, that the former granted only 20,000 acres of land for each senator and representative in Congress, instead of 30,000, finally allowed. Temporary loss resulted, as it often does, in permanent gain. The first bill passed the House April 22, 1858, and was indorsed by the Senate at the following session, but it met the veto of President Buchanan, February 24, 1859.

The veto message adopted the view of the timid school of interpreters of the constitution, and sets forth the obstacles which the friends of national aid to education and the public-school system had to encounter a generation or two ago. It rested mainly, like the well-known veto of the homestead bill a year later, upon constitutional grounds. President Buchanan urged the minor objections, that such a measure was inexpedient, in cutting off $5,000,000 of revenue at a time when it was difficult to meet the expenses of the government and to sustain public credit; that it would be injurious to the new states, in enabling speculators who might buy the land scrip to withhold their land from settlement, and thus run up the price to the actual settler; that the government would have no power to follow into the states to see that it was properly executed; and that such a donation would interfere with the growth of established colleges. "It would be better," says his message, "if such an appropriation of land must be made to institutions of learning, to apply it directly to the establishment of professorships of agriculture and the mechanic arts in existing colleges, without the interference of state legislatures."

Undoubtedly some of the objections were strong ones. The history of several of the agricultural schools, where the land was fooled away to land speculators, and the proceeds given to classical institutions, vindicated a number of them only too well; but they were posed simply to furnish a necessary background. He believed that the proposed grant violated the constitution of the United States. He presumed it "undeniable that Congress does not possess the power to appropriate money in the treasury, raised by taxes on the people of the United States, for the purpose of educating the people of the respective states. This would be to collect taxes for every state purpose which Congress might deem expedient and useful—an actual consolidation of the federal and state governments." The power specifically given to Congress "to dispose of the territory and other property of the United

States" was to be used only for the objects specifically enumerated in the constitution. At least the public lands could not be "given away." He believed that the previously made donations of the sixteenth sections, and, later, of the thirty-sixth sections, for common schools, and of townships for universities and seminaries, were safely constitutional; but in these transactions the government had not "given away" land. It had merely acted as a prudent speculator in "disposing of" some land, in order to enhance the price of the balance. The message "purposely avoided any attempt to define what portions of land may be granted, and for what purpose, to improve the value and promote the sale of the remainder, without violating the constitution."

In speaking of this veto, Prof. James Albert Woodburn says:

> That would, indeed, have been an interesting definition. It would have squared the circle in a constitutional sense. For nothing has been more impossible in our constitutional history than to limit, by rigid and permanent written definitions, the constitutional powers of the nation. It is now generally accepted as true that, while a written parchment can define broad principals of government which may not be violated, it cannot contain specifically all the necessary and proper powers which, under varying circumstances, may be exercised by the state. These must be determined by progressive national interpretation. In the doctrine of implied powers there was found "a sleeping giant in the constitution," which has been able at numerous times to assert its strength for the common benefit of all the states. This giant power has been forcibly wielded, always in a beneficent way, in the history of national grants in aid of education within the states. In seeking to promote the public welfare under the same written document, another Congress and a new president found it possible for the nation to extend again a helping hand to the states in the establishment of schools and for the promotion of learning.

"Where there is a lack of argument against a measure," said Mr. Morrill, while facing the veto of his bill, "the constitution is fled to as an inexhaustible source of supply. The president wholly ignores to consider the object of the bill, which was to offer tuition to the boys of farmers and mechanics (not to enrich corporations and endow professorships), and to enable them by their own industry to acquire what might not otherwise be within their reach—a liberal education. If it be a satisfaction to the president to have thwarted such an object, I hardly think it will be highly appreciated, and especially not by those whose hopes are thus destroyed. The telegraphic news of this veto will start a tear from the eye of more than one manly boy whose ambition will now be nipped in the bud. One great object was to raise the degenerate and downward system of agriculture by which American soil is rapidly obtaining the rank of the poorest

and least productive on the globe, and to give to farmers and mechanics that prestige and standing in life which liberal culture and recognition of the government might afford. To all these the president turns a deaf ear."

There was nothing left, though, but to re-introduce the bill in the House of the Thirty-ninth Congress, where it was again unfavorably reported by the committee on public lands.

In the meantime, however, the measure had found a champion in the person of Senator Wade, of Ohio, and on May 5, 1862, this gentleman introduced in the Senate the bill which, after much opposition, finally became a law. It was postponed and delayed in various ways. Even our Kansas senator, "Jim" Lane, of Leavenworth, objected to it, because it would, as he thought, exhaust all the valuable public land in his State; and in this he was generally supported by the press. The redeeming feature of Senator Lane's opposition was his unflinching belief that Kansas was "the only state with desirable public lands within its borders," and that, in case the bill should become a law, all other states from New Jersey to Illinois would rush to Kansas to take up her beautiful prairies. Mr. Lane finally fell back on the constitutional objection, and warned the Senate against the danger of "giving to sovereign states the right of entering lands within the sovereign states." Unable to defeat the bill, he and his coadjutors made a fight for the amendment that no more than 1,000,000 acres of the land should be located in any one state by assignees of the lands, and in this they were successful.

The bill, as amended by the Kansas senator, passed the Senate June 10, 1862, the House one week later, and became a law on July 2, 1862, by receiving the signature of Pres. Abraham Lincoln. The act is as follows:

[*Chapter CXXX, United States Laws 1862.*]

An Act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

That there be granted to the several states, for the purposes hereinafter mentioned, an amount of public land to be apportioned to each state a quantity equal to 30,000 acres for each senator and representative in Congress to which the states are respectively entitled by the apportionment under the census of 1860: *Provided*, That no mineral lands shall be selected or purchased under the provisions of this act.

Section 2. *And be it further enacted*, That the land aforesaid, after being surveyed, shall be apportioned to the several states in sections or subdivision of sections not less than one-quarter of a section; and whenever there are public lands in a state subject to sale at private entry at $1.25 per

acre, the quantity to which said state shall be entitled shall be selected from such lands within the limits of such state; and the secretary of the interior is hereby directed to issue to each of the states in which there is not the quantity of public lands subject to sale at private entry at $1.25 per acre, to which said state may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share: said scrip to be sold by said states, and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever: *Provided*, That in no case shall any state to which land scrip may thus be issued be allowed to locate the same within the limits of any other state or of any territory of the United States, but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at $1.25 or less per acre: *And provided further*, That not more than 1,000,000 acres shall be located by such assignees in any one of the states: *And provided further*, That no such location shall be made before one year from the passage of this act.

SEC. 3. *And be it further enacted*, That all the expenses of management, superintendence and taxes from date of selection of said lands previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom, shall be paid by the states to which they may belong, out of the treasury of said states, so that the entire proceeds of the sale of said lands shall be applied without any diminution whatever to the purpose hereinafter mentioned.

SEC. 4. *And be it further enacted*, That all moneys derived from the sale of the lands aforesaid by the states to which the lands are apportioned, and from the sales of land scrip hereinbefore provided, shall be invested in stocks of the United States or of the state, or some other safe stocks, yielding not less than 5 per centum upon the par value of said stocks; and that the money so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in section 6 of this act), and the interest of which shall be inviolably appropriated by each state which may take and claim the benefit of this act to the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. *And be it further enacted*, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several states shall be signified by legislative acts:

First. If any portion of the fund invested, as provided by the foregoing section, or any portion of the interest thereon, shall, by any action or contingency, be diminished or lost, it shall be replaced by the state to which it belongs, so that the capital of the fund shall remain forever undiminished; and the annual interest shall be regularly applied, without diminution, to the purposes mentioned in the fourth section of this act, except that a sum not exceeding 10 per centum upon the amount received by any state under the provisions of this act may be expended for the purchase of lands for sites or

experimental farms, whenever authorized by the respective legislatures of said states.

Second. No portion of said fund, nor the interest thereon, shall be applied directly or indirectly, under any pretense whatever, to the purchase, erection, preservation or repair of any building or buildings.

Third. Any state which may take and claim the benefit of the provisions of this act shall provide, within five years at least, no less than one college, as described in the fourth section of this act, or the grant to such state shall cease; and said state shall be bound to pay the United States the amount received on any lands previously sold, and that the title to purchasers under the state shall be valid.

Fourth. An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their costs and results, and such other matters, including state industrial and economical statistics, as may be supposed useful; one copy of which shall be transmitted by mail free, by each, to all the other colleges which may be endowed under the provisions of this act, and also one copy to the secretary of the interior.

Fifth. When lands shall be selected from those which have been raised to double their minimum price, in consequence of railroad grants, they shall be computed to the states at the maximum price, and the number of acres proportionately diminished.

Sixth. No state while in a condition of rebellion or insurrection against the government of the United States shall be entitled to the benefits of this act.

Seventh. No state shall be entitled to the benefits of this act unless it shall express its acceptance thereof, by its legislature, within two years from the date of its approval by the president.

SEC. 6. *And be it further enacted*, That land scrip issued under the provisions of this act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty-three.

SEC. 7. *And be it further enacted*, That the land officers shall receive the same fee for locating land scrip issued under the provisions of this act as is now allowed for the location of military bounty land warrants under the existing laws: *Provided*, Their maximum compensation shall not be thereby increased.

SEC. 8. *And be it further enacted*, That the governors of the several states to which scrip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip until the whole shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

THE ENDOWMENT.

Kansas was among the first of the states to accept the proffered endowment. The resolution of the legislature to "agree and obligate itself to comply with all the provisions of said act" was approved by Governor Carney February 3, 1863, and the resolution to accept the offer of the trustees of Bluemont Central College in "fee-simple" February 16 of the same year. Thus Manhattan became the seat of the Kansas State Agricultural College. The following are the laws of the State relating to these steps:

JOINT RESOLUTION accepting the provisions of an act of Congress, entitled "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," approved July 2, 1862.

Be it resolved by the legislature of the State of Kansas:

That the provisions of the act of Congress, entitled "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," approved July 2, 1862, are hereby accepted by the State of Kansas; and the State hereby agrees and obligates itself to comply with all the provisions of said act.

Resolved, That upon the approval of this act by the governor, he is hereby instructed to transmit a certified copy of the same to the secretary of state and secretary of the interior of the United States.

AN ACT to locate and establish a college for the benefit of agriculture and the mechanic arts.

WHEREAS, The Congress of the United States, by an act approved July 2, 1862, and entitled "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," granted to the State of Kansas, upon certain conditions, 90,000 acres of public lands for the endowment, support and maintenance of a college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life; and

WHEREAS, The State of Kansas by its legislature has expressed its acceptance of the benefits of the said act of Congress, and has agreed to fulfill the conditions therein contained: therefore,

Be it enacted by the legislature of the State of Kansas:

SECTION 1. That the College, in the foregoing preamble mentioned, be and the same is hereby permanently located at and upon a certain tract of land, situated and being located in the county of Riley and the state aforesaid, and bounded and described as follows: Commencing at a point 40 rods east of the northeast corner of the southwest quarter of section number 12, in township number 10 south, and range number 7 east of the sixth principal meridian; thence running south, parallel to the east line of said quarter-section, 80 rods; thence west 200 rods, more or less, to the west line of said quarter-section; thence north on the west line of said quarter-section 80 rods, to the north line of said quarter-section; thence east 200 rods, on the north line of said quarter-section, to the point of beginning, containing 100 acres: *Provided, however*, That the location of said College, as aforesaid, is upon this express condition, that the Bluemont Central College Association, in whom the title of said land is now vested, shall within six months from and after the approval of the governor hereto, cede to the State of Kansas, in fee-simple, the real estate above described, together with all buildings and appurtenances thereunto belonging; and shall, within such time, transfer and deliver to said State the apparatus and library belonging to said Bluemont Central College Association.

SEC. 2. The governor of the State is hereby authorized to receive the title papers by which the foregoing mentioned property may be transferred to the State, and to cause the same to be duly recorded in the proper office, and to be deposited in the office of the auditor of state.

SEC. 3. This act shall be published twice in some newspaper printed at Topeka, and shall take effect and be in force from and after such publication.

Took effect February 19, 1863.

AN ACT to provide for the location of lands granted to the State by act of Congress approved July 2, 1862, and making an appropriation therefor.

Be it enacted by the legislature of the State of Kansas:

SECTION 1. The governor is hereby authorized to appoint three commissioners to select and locate the lands to which the State is entitled under the act of Congress approved July 2, 1862, entitled "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts;" and such commissioners are hereby authorized and empowered to take any and all steps necessary to the complete location of said lands.

SEC. 2. Each commissioner shall receive the sum of $3 per day for every day's actual service, and his reasonable expenses; and the auditor is hereby directed to issue warrants on the treasury for the same upon an account, properly verified under oath, being filed in his office. The commissioners shall make a report to the governor of all their proceedings under this act, to be transmitted by his excellency to the next legislature.

SEC. 3. This act shall take effect from and after its passage.

Approved March 3, 1863.

Three commissioners were immediately appointed by the Governor to select the lands. The grant gave 90,000 acres; but as a portion of the selected tracts supposed to be within the railroad limits counted double, the College received but 82,313.52 acres. In the fall of 1866, Hon. J. M. Harvey commenced the appraisal of these lands, and July 27, 1867, reported his work completed. Hon. I. T. Goodnow was appointed land agent, Hon. S. D. Houston having, as temporary agent, previously sold a few acres. Mr. Goodnow held the office until the reorganization of the College in 1873, and sold about 42,000 acres for about $180,000. His successor, L. R. Elliott, held the office of land agent from 1873 to 1883, and sold over 32,000 acres for about $240,000. The remainder, some 8000 acres, was sold for over $30,000 by Mr. J. B. Gifford, who held the office of land agent until after all the land was sold, in 1888. The total fund derived from these sales is $492,381.36, all of which, except unpaid land contracts, is invested in Kansas school and municipal bonds, paying 6 per cent interest. The State has made good losses from this fund by unfortunate investment or fraud to the amount of $6039.57.

The deficiency of 7686.48 acres in the amount of land received by the College was closely inquired into, and the still valid claim was presented before the Department of the Interior by Hon. S. J. Crawford, in 1880, and again in 1887, with added proof of its character, afforded by later decisions of the Supreme Court of the United States. When the secretary of the interior refused to re-

open the case decided adversely in 1880, the matter was brought to the attention of Congress by a joint resolution offered in the House of Representatives by Hon. John A. Anderson (the second president of the College—now a member of the House), granting to the State the privilege of selecting from public lands still unsold within the limits of the State the amount needed to make up the loss from the original 90,000 acres. The resolution was favorably reported by the committee on public lands, and passed both Houses without objection. President Cleveland, however, vetoed it upon the ground that this State, having selected lands which fell within the limits of the railroad, afterwards located, had received all to which it was rightly entitled.

But the feeling that the College was right in its contention for the full allotment of land prevailed in College circles and prompted future boards and the congressmen from this congressional district to bring the matter before Congress at every opportunity, and in the spring session of 1907, more than forty-five years after the passage of the original land-grant act, their efforts were crowned with success. Congressman Calderhead succeeded in passing the grant through both Houses, and President Roosevelt approved it.

THE FORT HAYS RESERVATION.

In February, 1900, the Agricultural College received another valuable donation from Congress—a part of the old Fort Hays reservation in Ellis county—for the purpose of establishing an experiment station. The fort was established in the early sixties and was at one time an important frontier post, but in 1887 it had become unnecessary for the protection of pioneer settlers and was abandoned. Hays City had made efforts ever since to turn it into something that would benefit the town. It was first wanted for a soldiers' home, but the plan failed, the home going to Dodge City. In 1895 the present bill was framed and passed in both Houses of Congress, but failed to get the signature of President Cleveland. Other attempts were made, and failed to advance even that far. The part of the reservation given to the College contains about 3000 acres of fine prairie land, but the buildings were mostly dilapidated lumber barracks of practically no value. A copy of the bill giving the reservation to the College will be found in Chapter XVI, and an historic item pertaining to the frontier life in old Hays, in Chapter XVII.

CONGRESSIONAL APPROPRIATIONS.

In March, 1887, Congress passed the so-called "Hatch bill," which provided for the organization in each state of a station for agricultural experiments, and gave to each station an annual appropriation of $15,000 for this purpose. The legislature designated

this College as the proper place for such experimental work, and the institution has received since April, 1888, when the first payment was made, $82,500 from this source. Further particulars with regard to this appropriation, and the valuable work which it has enabled the College to do in the interest of western agriculture, will be found in another part of this historical sketch.

On August 30, 1890, another act was passed by Congress, the so called "College aid bill," an act applying a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of the Morrill act. It provides for an annual appropriation, beginning with $15,000 for 1890, with an annual increase for ten years by an additional sum of $1000 over the preceding year, the annual amount thereafter to each state to be $25,000. A copy of this bill will be found in Chapter X of this volume, together with some facts pertaining to its history.

In 1906 the fifty-ninth Congress passed the so-called "Adams Bill," an act adding to the annual appropriation for state experiment stations $5000 for the year ending 1906, and an annual increase of this amount for five years by an additional sum of $2000 over the preceding year till the total of the annual appropriation under this act shall amount to $15,000. A copy of this act will be found in Chapter XVI of this history.

STATE APPROPRIATIONS AND BONDS.

In miscellaneous appropriations, the College has received from the State, since its organization, something over one and three-fourths million dollars. The township of Manhattan, in 1871, donated $12,000 in bonds for the purpose of buying the present farm. The appropriations of 1866-'70 were first made in shape of a loan, but were donated again in 1870. Up to 1893 the total amount was only $312,700.56, but after that date the State became more liberal. The following table gives the totals received from legislative appropriations, exclusive of the items of per diem and mileage of the Board of Regents, fuel from the State penitentiary, printing and binding done in the State printing-office, commissions paid to land agents, incidental fees paid by students, and profits made from the sale of farm products:

UNDER PRESIDENT DENISON, 1863-73.

1864, Annual Session	$ 2,700 00
1865, Annual Session	3,200 00
1866, Annual Session	5,500 00
1867, Annual Session	12,700 00
1868, Annual Session	8,715 00
1869, Annual Session	8,819 00
1872, Annual Session	15,000 00
1873, Annual Session	23,000 00
Total	$79,634 00

UNDER PRESIDENT ANDERSON, 1873-'79.

1874, Annual Session	$28,083 23
1875, Annual Session	13,675 24
1876, Annual Session	15,300 00
1877, Biennial Session	20,729 09
1879, Biennial Session	1,500 00
Total	$ 78,287 56

UNDER PRESIDENT FAIRCHILD, 1879-'97.

1881, Biennial Session	$52,729 09
1883, Biennial Session	25,500 00
1885, Biennial Session	16,800 44
1887, Biennial Session	26,931 79
1889, Biennial Session	15,024 91
1891, Biennial Session	12,875 75
1893, Biennial Session	77,674 00
1895, Biennial Session	33,690 00
1897, Biennial Session	39,178 00
Total	$300,403 98

UNDER PRESIDENT WILL, 1897-'99.

1899, Biennial Session	$125,593 00

UNDER PRESIDENT NICHOLS, 1899-'08.

1901, Biennial Session	$180,000 00
1903, Biennial Session	239,660 00
1905, Biennial Session	260,000 00
1907, Biennial Session	549,000 00
Total	$1,228,660 00

Nearly two-thirds of the grand total of these legislative appropriations for the thirty-seven years, from 1863 to 1909, were received during the time of Pres. E. R. Nichols. The appropriations for 1909-'10 are not made at this writing. They will undoubtedly increase the amount received by the College during the Nichols period to over two million dollars.

The legislature of 1903 also added $500 to the income of the president, in form of a traveling and incidental fund, and established an incidental fee of $3 per term for students from Kansas, a matriculation fee of $10 and an incidental fee of $10 per term for students from other states. Many statements concerning the details of the financial condition of the College will be found scattered throughout the pages of this book.

In June, 1908, the inventory of the College amounted to a total of $1,077,829.29; that is, to over one-half of the appropriations received in the thirty-four years. If the lands and buildings of the institution were appraised at their full value a much stronger statement could be made. It might be said that so far the College has paid its expenses practically out of the bountiful pocket of the general government.

State Agricultural College, Manhattan, Kansas. 1885.

IV.

THE AGRICULTURAL COLLEGE IN 1863—FROM 1863 TO 1873—STATE APPROPRIATIONS AND PERMANENT IMPROVEMENTS DURING THE FIRST DECADE.

IT IS natural that the College should have remained for a time, as it did, under the care of its founders and generous donators, and should have conformed to the ideal before their minds. The charter provided for four departments—science and literature, mechanic arts, agriculture, and military tactics. Of these, that of science and literature was put in operation. The course was laid out to cover four years, with an indefinite preparatory, and conformed closely with that of Bluemont Central College. The first catalogue gives the names of ninety-four students in the Preparatory Department and fourteen in the College proper. Seventy-four were from Riley county. The Faculty consisted of Rev. Joseph Denison, D. D., A. M., president and professor of ancient languages and mental and moral sciences; J. G. Schnebly, A. M., professor of natural science; Rev. N. O. Preston, A. M., professor of mathematics and English literature; Jeremiah Evarts Platt, principal of Preparatory Department; Miss Belle Haines, assistant teacher in the Preparatory Department; and Mrs. Eliza C. Beckwith, teacher of instrumental music. The following is a copy of the first circular issued by the College:

The first term of this institution as now organized by the authorities of the State, under a board of experienced and competent professors and teachers, will commence September 2, 1863, and continue thirteen weeks. The Department of Music, both vocal and instrumental, will soon be organized, of which notice will be given in due time.

Every possible effort will be made to make the facilities for acquiring a full and thorough education in this institution equal to those of any other in the country. Its government will be firm, but mild and parental. Its aim will be to promote the highest welfare of the student, physical, mental and moral. Females as well as males will be admitted to all the advantages of the institution. Special instruction to those preparing to teach. All proper attention will be given to subjects relating to the Department of Agriculture. A course of lectures on practical farming and kindred subjects from competent men may be expected during the term.

The President of the institution will lecture on important subjects. Prof. J. G. Schnebly will lecture on subjects illustrated by the magic lantern, including astronomy, natural history, etc.: Prof. I. T. Goodnow, on inorganic, organic and agricultural chemistry.

Rates of tuition for term of thirteen weeks, to be paid in advance: Common English branches, four dollars. Higher English, algebra, geometry, languages, etc., five dollars. Music on melodeon, eight dollars; piano, ten dollars. Incidental expenses, for fuel, sweeping, and bell-ringing, fifty cents.

Special exercises in riding on horseback, calisthenics, gymnastics, etc., tending to promote the health and manners of the student, will be given without extra charge.

Board in private families, from two to three dollars per week.

FROM 1863 TO 1873.

During the first ten years the College grew slowly. Up to 1873, only fifteen students had graduated, while the number of students in attendance during any one term never reached 125, and these were mostly from Riley and the adjoining counties. Some of the efforts made by the Faculty to populate the empty school benches seem almost incredible at the present time. "At a Board meeting, December 2, 1863, President Denison stated that he had entered into a contract with the board of directors of the district school of the place to have their scholars instructed during the winter in the College—principally in the Preparatory Department of the institution—for the sum of $130. At the same meeting, Mr. Jeremiah Evarts Platt was elected to a professorship in the Preparatory Department and professor of vocal music, at a salary of $600 per annum." (Report of state commissioners, 1873.)

The catalogue for 1868 gives the number of students present in the winter term as eighty-three and the report for the fiscal year ending November 30, 1871, states the number of students then present in the different departments as one hundred nineteen—sixty-four gentlemen and fifty-five ladies. Of the students in the College course proper, in the fall term of 1871, fourteen were in the Literary Department and ten in the agricultural and scientific course. The number of counties of the State represented by students in the three terms of the year 1870 was twenty-two, and the number of other states, six. In 1871—*i. e.*, in the common year, not in the school year—twenty-seven counties and seven states were represented.

The reasons for this slow growth must be looked for in many directions: The newness of the State, the western location of Manhattan, the inadequacy of means, the founding of rival literary institutions at Lawrence, Baldwin, Topeka, etc., and the fact that industrial education was in its experimental stage. President Denison and a majority of the professors were classic students, and had no faith in the educational results of technical instruction not connected with the classics. They planned to add elective work in practical science and applied mathematics to the "old education," but it was intended to supplement, and not supplant, this. The introduction of obligatory daily manual labor as an educational factor was not attempted. Aside from occasional

lectures on general topics, little was done for agriculture and the mechanic arts, and the increasingly frequent demands for an institution that would educate towards, instead of away from, the farm and the workshop were met with uncertain promises. The Board, largely composed of professional men, must have held similar views, though the report of the State commissioners of 1873 says that "attempts were made by members of this body at different times to change the curriculum of study, and in other respects to alter the running of the College so as to make it conform more nearly to the demands of the people."

It should not be assumed, however, that the institution failed of doing good work in its class rooms. The Literary Department was second to no higher school of the kind in the State. The catalogue of 1868-'69 states that up to that time the College had educated at least eighty teachers for the public schools. A considerable number of ministers, especially of the M. E. church, which still considered the institution as its protégé, and reported it as such at the annual conferences, also received their education here. Nor were the sciences entirely neglected. Benjamin F. Mudge, A. M., called to the chair of natural science in 1865, was an enthusiastic teacher and an untiring explorer. Aided by some of his pupils, one of whom is now professor of anthropology in Chicago University, Professor Mudge made a large collection of geological specimens and donated it to the College, where it formed a nucleus of the present museum. Being the first "take" in the new State, it contained many specimens which could not have been acquired later. (A biographical sketch of Professor Mudge will be found in Chapter V.)

APPROPRIATIONS FOR 1863-1873.

During the presidency of Mr. Denison the College received appropriations by the State to the amount of $77,468.85. There were appropriated, exclusive of pay of Regents and of Land and Loan Agents:

For 1864	$ 2,802 25
For 1865	3,316 50
For 1867	18,011 10
For 1868	6,420 00
For 1869	8,919 00
For 1872	15,000 00
For 1873	23,000 00

In miscellaneous appropriations for 1871 the College was g ven $2700, but the amount, for reasons not known to the writer, was never drawn. Quite the reverse seems to have happened in 1866. In the Session Laws of 1867, page 3, section 2, it is seen that there

was loaned to the College in 1866 the sum of $5500, but the Laws of 1866 contain no act making such appropriation. The Auditor's books show that it was for deficiency of professors' salaries for the years 1864, 1865, and part of 1866.

In the appropriation act of 1867 a condition was inserted, viz.: "The said sum to be taken and deemed a loan from the State of Kansas to the State Agricultural College, to be reimbursed to the State after the State shall have been reimbursed for the $5500 lent to said College for the year 1866."

An act approved March 1, 1870, contains the following:

Whereas, The State of Kansas has heretofore advanced as a loan from time to time the several sums necessary to pay the salaries of professors in said College, thus complying with the condition that the institution should go into active operation within a limited time, and securing its benefits to the earlier pioneer settlers in the commonwealth: therefore,

Be it enacted by the legislature of the State of Kansas:

SECTION 1. That the several sums advanced to pay the professors in the Kansas State Agricultural College from the year 1863 to the year 1869, inclusive, be and the same are hereby donated to said College, together with all interest that may have accrued on said sums: *Provided*, That the amount hereby donated shall be used as the Board of Regents of said College may direct: to purchase additional lands for the College farm; to erect buildings; and to develop the Agricultural Department of said College: *And provided*, That the sum of $1500 may be appropriated from said donation for the purchase of a proper set of arms and accoutrements for the use of the drill class in the Military Department required by law in said College.

SEC. 2. The treasurer of the Board of Regents is hereby authorized to pay upon the orders of said Regents an amount equal to the sum donated by this act to said College out of any interest upon the endowment fund that may at any time be in his hands in excess of orders then due for professors' salaries: *Provided*, That if any order drawn upon said treasurer on account of the donation made by this act shall not be paid on presentation, said treasurer shall indorse thereon, "Not paid for want of funds;" and any order thus indorsed shall bear interest at the rate of seven per cent per annum until paid.

Immediately after the approval of this act, the Board of Regents had engraved or lithographed 364 pieces of scrip, so-called "College greenbacks," of the denomination of $100 each, made payable at different times for a period of eight years, beginning July 1, 1870. These orders were used in purchasing the farm and supplies for the same, for boarding-house repairs, and for improvements of various kinds. On December 22, 1871, the issue of this depreciated paper was stopped by the Board of Regents, but the $33,700 already issued proved a serious burden to the institution for many years, on account of the high rate of interest which prevailed at that time in Kansas. The greater part of this obligation ($28,258.23) was paid in 1874 and 1875—*i.e.*, after the reorganization

—but the remainder drew interest until 1881, when President Fairchild succeeded in convincing the legislature that it was their duty to provide for its cancellation.

The board of State commissioners, in their reports for 1873 and 1874, intimate that the existence of the College greenback was the result of the incapacity of the management, and the legislature placed the charge heavily upon the shoulders of President Denison and his associates; but it should be remembered that the State refused to make appropriations to the College for 1866, 1870, and 1871, and that a public institution cannot, like an orchid, live on Kansas air and rain-water. As a State institution, it ought to have been sustained or abolished.

IMPROVEMENTS MADE IN 1863-1873.

The following is a short synopsis of the material signs of progress and growth during the period: A library of nearly 3000 volumes was accumulated, chiefly through the efforts of Hon. I. T. Goodnow, who wrote hundreds of soliciting letters to Eastern publishers, philanthropists, and personal friends. In 1867 eighty acres of the farm were enclosed by a stone wall, a few acres having previously been broken. In the same year a capacious student boarding hall was built by resident parties, but, proving a poor financial investment, it was afterwards "urged" upon the College. At the time of its erection the building met an evident want; but, costing the College over $10,000, at a time when this was financially embarrassed, the purchase was a misfortune. In 1875, when the College was removed to the new farm, the hall became entirely useless, until, in 1889, after having been sold to a private party for $1000, a fire devoured its rotten floors and roofs and calcined its crumbling walls. In 1868 a forest plantation was commenced and an orchard planted. The former contained some 200 varieties of trees, many of which were entirely new to the prairie country, and have since then proved very valuable. The orchard was planted by Mr. Samuel Cutter, of Vinton, at an expense of fifty cents per tree. In the winter of 1868-'69, the legislature made its first outright appropriation, of $200, for the Agricultural Department, restricting its use to the purchase of plants, seeds, and agricultural implements. "As a matter of interest, it may be noted that the same legislature appropriated $1400 to furnish tobacco to the convicts in the penitentiary." In 1869 the broken portions of the farm were rented to Col. Frank Campbell, the steward of the College boarding hall. In 1870 Prof. J. S. Hougham, the first teacher of agriculture and chemistry, planted the first crop, consisting of oats, barley, and corn; but "the oats

and barley grew only six to eight inches tall, and the corn was all but destroyed by chinch-bugs." The next crop did much better, though. "In August of the same year the ground was sown to wheat, and in 1871 gave a yield of forty-three and one-half bushels per acre."

It had long become apparent to the Board of Regents that the dry and stony piece of upland upon which the College building stood was unsuited for the purpose of conducting agricultural and horticultural experiments. The humus crust was thin and poor, and the subsoil a perfect gravel bed, cemented together by a tough, yellow clay. The final result of many discussions of the matter was, that in July, 1871, two valuable tracts of land were purchased. One of these, the so-called "Ingraham place," consisting of 80 acres of very fine bottom land on the Wildcat creek, about two miles southwest of the College, was never used, but was sold in 1880. The other, adjoining the city of Manhattan, and containing nearly a quarter-section—a beautifully located tract of land—became the site of the present College. Of this, the northwest quarter, about 40 acres, was bought of Mrs. Preston, the widow of Prof. N. O. Preston, who, in February, 1866, had died from apoplexy in the class room; the northeast quarter, about 40 acres, was bought from Prof. E. Gale; and the south half, about 75 acres, was bought from Mr. Foster. The total cost was $29,832.71 in scrip. The city of Manhattan, frightened over the repeated attempts of zealous friends of the State University, at Lawrence, to consolidate the Agricultural College with that institution, contributed $12,000, the result of a bond election. A solid stone fence was built around the whole tract, and the erection of a large barn commenced—a broad-corniced, massive looking stone structure, with numerous wings, towers, stairways, elevators, and offices. The barn was never completed, however, and the finished west wing served its purpose for a short time only. It was afterwards, under Pres. John A. Anderson, turned into a class room building, and still later, under Pres. Geo. T. Fairchild, into a drill hall and museum.

In 1871 Fred E. Miller was appointed professor of agriculture, and means were provided for the purchase of stock, teams, and implements. The foundation was laid for a herd of shorthorns, which still remains the pride of the College. In the following year a Veterinary Department was organized, and put under the management of Prof. H. J. Detmers, V. S., a German by birth and education, who has since then become an authority on the contagious diseases of the hog, but the department was discontinued in 1874, for want of means and room. A Military Department

organized some years previous, and provided by the government with a teacher in the person of Brevet Gen. J. M. Davidson, met with the same fate. The Veterinary Department was not revived until 1888, when a chair of veterinary science and physiology was created. The Military Department fared some better, in dating its revival September 1, 1881. On the whole the friends of the institution as well as the people of the State were much divided as to the work that the Agricultural College should do. President Denison, the Faculty and the Board were satisfied that a college education would not amount to much without latin and other so-called culture work, while practical men in different parts of the State demanded that more attention should be given to the sciences. On December 14, 1867, the Hon. James Humphrey, of Manhattan (later of Junction City), published in the Junction City *Union* a column communication concerning the College, in which he said:

"It is quite evident that schools of science rather than classical colleges were intended to be established. The investigation of natural phenomena—the laws of nature—the teaching of mathematical and physical sciences and their practical relations and bearings to the agricultural and mechanic arts were to constitute the leading objects of these institutions. While classical studies *may* be pursued, those branches *must* be taught. The industrial interests of the State deserve the fostering care of such a school as was contemplated by the act of Congress."

Many other public men wrote in a similar strain.

The Main Drive.

V.

PRESIDENT DENISON AND HIS COLLABORATORS—PROF. B. F. MUDGE—HON. I. T. GOODNOW—PROF. J. S. HOUGHAM—PROF. E. GALE.

A MAIN obstacle to the growth of the College, not only during its first decade, but during its whole existence up to the present day, was the scarcity of properly trained and experienced instructors of the sciences, which necessarily form a main part of the curriculum of every technical school. The chronic deficit in the treasury of the institution during its forty-seven years of existence has not only prevented the Board of Regents from going into the Eastern market for good men, it often made it impossible to hold experienced teachers whom the College had produced. The following clipping from the *Manhattan Standard* of 1871 gives an interesting glimpse into the conditions that prevailed three or four decades ago:

"Complaint has been made because the Regents have failed to secure the services of an agricultural professor. We are glad to see the interest manifested, even if it be a little overheated. We feel assured, however, that no one will find fault if he knows how much time has been spent in trying to secure a professor. In starting an agricultural department there is a necessity, first, to have the ground plowed and fenced. So anxious was the president, Doctor Denison, that he by his own efforts raised $1400 for this object. When the last legislature appropriated a sufficient additional amount to complete the fencing of the grounds, active exertions were immediately commenced by the Regents and Faculty to engage an agricultural professor. Even that able, enthusiastic agriculturist, Judge L. D. Bailey, was employed to engage one. As early as last April, a gentleman of eight years' experience in the Pennsylvania Agricultural College was elected, under promise of accepting if chosen. As professors are not usually overstocked with traveling money, and to render the thing sure, Doctor Denison borrowed $250 for the professor to move on with! Untoward circumstances prevented his coming in the spring term, but we were confidentially informed that his services might be had in September. He even promised to come on a salary of $1500. The offer was promptly accepted, but again he failed to come to time. Numerous applications have been made in other directions, and still we are without an agricultural professor, and from no fault of the Regents or the Faculty. We will add, however, that an active correspondence is being held and we hope soon to secure a man worthy of the highest and most important professorship in the State."

At the time of President Denison's resignation, in 1873, the Faculty consisted of the following members; Joseph Denison, D. D., president, and professor of history, political economy, and mental and moral philosophy. B. F. Mudge, A. M., professor of the natural sciences. Rev. J. H. Lee, A. M., professor of Latin and Eng-

lish literature. J. Everest Platt, A. M., professor of mathematics and teacher of vocal music. Dr. H. J. Detmers, V. S., professor of veterinary science and animal husbandry. Maj. Fred E. Miller, professor of practical agriculture and superintendent of the farm. Rev. E. Gale, professor of horticulture and superintendent of the nursery. Lizzie J. Williams, teacher of drawing, and tutor. Hattie V. Werden, teacher of instrumental music. Jennie Detmers, teacher of chemistry and German. Ambrose Todd, superintendent of shops and instructor in mechanics.

In the following pages of this chapter will be found biographical sketches of some of the early makers of the College:

PRESIDENT DENISON.

Joseph Denison, D. D., A. M., the first President of the Kansas State Agricultural College, was born in Bernardston, Franklin county, Massachusetts, October 1, 1815. When he was two years old his parents removed to Colerain, in the same county, where they engaged in farming. Here young Denison lived the usual life of the New England farmer boy of those days. In the fall of 1833 he entered Wilbraham Academy to prepare for college, and in 1837 he joined the sophomore class in Wesleyan University, at Middletown, Conn., where he graduated in 1840. In the same year he was elected professor of languages in America Seminary, Duchess county, New York, and held that position for three years, having for his pupils such men as Alexander Winchell, the renowned geologist, and Albert S. Hunt, the great philanthropist, whose gifts to hospitals and institutions of learning have aggregated $1,000,000, or more. From 1843 to 1855 he was engaged in the work of the ministry in Massachusetts, and in the spring of the latter year he came to Kansas, settling on a tract of government land near Manhattan (the present county asylum farm), where he became one of the prime movers in the organization of Bluemont College and afterward its third president. The first president of Bluemont College was I. T. Goodnow, and the second Rev. R. L. Harford. A few years later, when the College became a State institution, he was still its President, holding this responsible position until 1873, when he resigned, and soon after accepted, for a time, the presidency of Baker University, at Baldwin. Later on he engaged in the work of the ministry of the Methodist Episcopal church. Reverend Denison is characterized by his collaborators as a man of conservative views with regard to education, politics, and religion—a typical New Englander of the old school, a simple and solid character. Of the other pioneers who came with him from the East, a majority accumulated considerable wealth—

he worked in the vineyard of the Lord and had no time to make money. He died at the home of his sister, Mrs. I. T. Goodnow, near Manhattan, February 19, 1900, and was laid to rest in the beautiful cemetery overlooking the College from a neighboring hill.

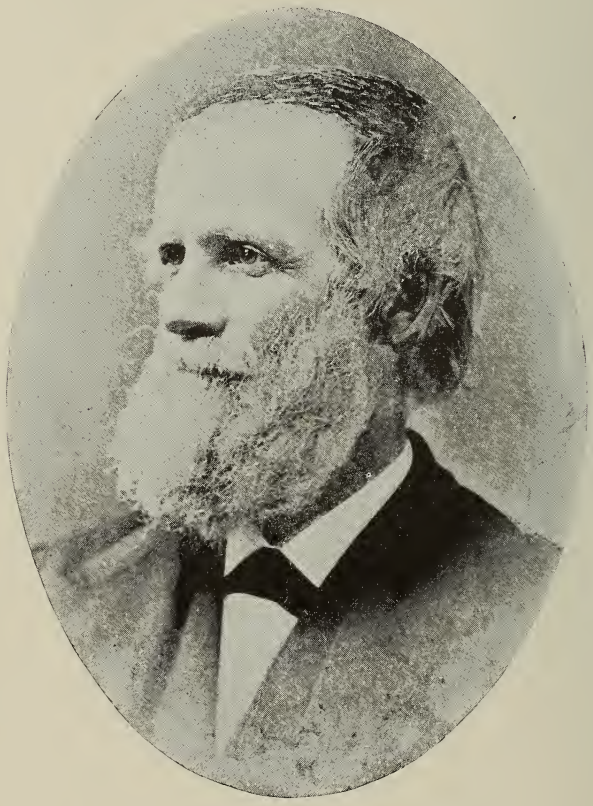
PROF. BENJAMIN FRANKLIN MUDGE.

Prof. Benjamin Franklin Mudge, A. M., was born in Orriton, Me., August 11, 1817, and died at Manhattan, Kan., November 21, 1879. When Benjamin was two years old, his father's family moved to Lynn, Mass., and engaged in the shoe business. In 1840 B. F. Mudge graduated at Wesleyan University, Middletown, Conn. Some years later this institution honored him with the degree of master of arts. During his vacations, and at odd moments, he diligently pursued his studies in natural history; and although after graduating he entered the legal profession, he never relaxed his interest in science, and gathered here the nucleus of the mineralogical collection which he afterwards presented to the Kansas State Agricultural College. After practicing law for sixteen years, during which time he was twice honored with the mayoralty of Lynn, he removed to Cloverport, Ky., where he was connected with the Breckinridge Coal Company. On the breaking out of the rebellion, he removed to Wyandotte county, Kansas, and, his love for geology becoming known, he frequently delivered lectures on his favorite study through the State. In 1864, through the influence of Hon. I. T. Goodnow, superintendent of public instruction, he was invited to deliver a course of lectures before the legislature, whereupon this body conferred upon him the office of State geologist—an honor entirely unsought, yet thoroughly enjoyed. While the State appropriation provided for the office but a short time, he was subsequently elected geologist under the State board of agriculture, which office he held during life.

In 1865 he was elected to fill the chair of natural sciences in the Kansas State Agricultural College, to which institution, with a royal munificence, he donated his entire cabinet, valued at $3000. It was during one of his summer excursions that he discovered *Ichthyorius dispar*, a bird with teeth and bi-concave vertebræ. He severed his connection with the College in February, 1874, on account of a serious disagreement with the new management. Like his collaborators, Pres. Joseph Denison, Land Agent I. T. Goodnow, and Prof. H. J. Detmers, he did not believe in industrial education and manual training, and resisted the efforts in reorganizing the College of the newly-appointed Board of Regents and Pres. John A. Anderson, to the extent of leaving his classes and

going to Topeka to interview the governor on these matters. The new management was victorious, and Professor Mudge left the institution where for eight years he had been the leader in scientific work.

The last years of his life he spent chiefly in making collections for Professor Marsh, of Yale College, and thus brought before the



Prof. B. F. Mudge.

scientific world many new and rare discoveries. On Friday, November 21, 1879, the professor was engaged with his friend, Doctor Blachly, of Manhattan, in geologizing on Bluemont ridge north of the city, exercising himself violently with pick and shovel. Upon his return he sat down to read with his family. Half an hour later he complained of feeling a pressure in his head, stepped out-of-doors to take a walk, and died there of apoplexy.

Professor Mudge has been called the prince of collectors in the West. He discovered over eighty new species of the fossil flora,

and an equally large number of species of the fossil fauna. In 1871 the eminent naturalist, Professor Lesquereux, said of him: "He is the only truly scientific geologist west of the Mississippi river."

To him the State of Kansas owes its first comprehensive geological map; and it was a proper acknowledgment of her indebtedness to his unselfish life-work, when, after his death, in 1879, his name was engraved in one of the wall panels in the Hall of Representatives at the State Capitol, and the Academy of Science erected a massive granite monument upon his grave, overlooking the College buildings from a neighboring hill.

HON. ISAAC T. GOODNOW.

Isaac T. Goodnow was born in Whitingham, Windham county, Vermont, January 17, 1814, and was in his eighty-first year when he died. At the age of fourteen he became a merchant's clerk, and at the age of twenty entered the academy of Wilbraham, near Springfield, Mass., where he remained fourteen years, first as a student, then as instructor in the primary and English departments, and then as professor of natural sciences, which latter position he held for ten years. In 1848 he was called to the same chair in Providence Seminary, at East Greenwich, R. I., which he filled for six years. In 1838 he was married to a sister of Rev. Joseph Denison, and in 1855 he started, in company with Denison, for Kansas, settling in March of that year on a claim near Manhattan, until lately owned by J. F. Swingle. In 1857 he returned East and raised $4000 for building the Manhattan Methodist church (now the Roman Catholic church). Then, in connection with Joseph Denison, Washington Marlatt, and others, he established Bluemont College, again visiting the East and securing $15,000 in cash, a library of 2000 volumes, and some philosophical apparatus. As a member of the State legislature he secured the passage of a bill locating the State University at Manhattan—the bill that was vetoed by Governor Robinson, of Lawrence. In the fall of 1862 he was elected State superintendent, and reëlected in 1864. As superintendent of public instruction he was *ex officio* a Regent of the Agricultural College. In 1867 Professor Goodnow was selected agent to dispose of the 90,000 acres of land belonging to the College. In 1869 he became land commissioner of the M. K. & T. railway, and in the next seven years sold land amounting to over $1,500,000. For nearly forty years Professor Goodnow had been a prominent public man in his old home and at Manhattan. He left considerable property at his death, but no children.

Professor Goodnow was not a man of deep learning, nor was he a good public speaker, but he became, by his sturdy, practical character and natural business abilities, at the very start, the indispensable manager and financier of the newly founded Bluemont College, and afterwards of the Agricultural College, and it is a question whether there would be a State institution of learning at Manhattan to-day without his efforts as a legislator and solicitor of needed funds.

PROF. JOHN S. HOUGHAM.

John Scherier Hougham, the first regular professor of agriculture and physical science at the Kansas State Agricultural College, was born at Connersville, Ind., May 28, 1821, and died of pneumonia at his handsome suburban home near Manhattan, Kan., March 31, aged seventy-three years. He was educated at Wabash College, Crawfordsville, Ind., where he graduated in 1846. In September of this year he became principal of mathematics and physics in Franklin College, Ind., at a salary of $400. The college was poor financially, but Professor Hougham stayed by it for sixteen years and helped to make it a much-sought educational institution. In 1868 he accepted the chair of philosophy and agriculture in the Kansas State Agricultural College and stayed here for four years. It was a difficult position to fill and there were no funds for the development of his department. It was the old story of being asked to make bricks without straw. His offer to lend some money to the College for necessary expenses was accepted, but it brought him much trouble and led to his resignation. In 1872 he accepted the chair of agricultural chemistry in Purdue University, Lafayette, Ind., where he remained until 1876, after which he gave his attention chiefly to his personal affairs. In a brief autobiography which Professor Hougham inserted in his history of Franklin College occurs the passage: "There are two things for which I earnestly plead: First, a small funeral; second, a very brief, if any, obituary notice." His friends thought otherwise, and gave him a large funeral and copious obituaries.

PROF. ELBRIDGE GALE.

Professor Elbridge Gale was born on Christmas, 1824, in Bennington, Vt. In his youth he attended Brown University, and later he was a student and graduate of the Baptist Theological Seminary at New Hampton, N. H.

His first pastorate was at Johnson, Vt., where he was married in 1853 to Miss Elizabeth C. Carpenter. From Vermont he went to Pavillion, Ill., and was pastor of the Baptist church in that city

for eight years. He came to Kansas from Illinois, and in 1864 accepted a call from the Baptist church in Manhattan, where he remained as pastor till he was offered the chair of horticulture in the Kansas State Agricultural College, which position he accepted. While pastor of the Baptist church at this place he was elected county superintendent of Riley county, and was reëlected for several terms.

But the reverend was no pulpit man. He loved outdoor life better. Soon after coming to Manhattan he acquired a tract of about fifty acres of land adjoining the town site, built himself a home, and started a nursery. In a few years the little Gale farm became a veritable botanical garden. In 1870 the city of Manhattan bought a quarter-section of land to relocate the College, and as the Gale nursery formed a part of this tract he reluctantly parted with his beautiful homestead. The large maple trees along Lovers' Lane and the north College creek, and all the old pines, cypresses and spruces directly north of the Lane were planted by him before the College bought his land. He "preached trees" on every possible occasion and gradually became the orchard authority in Central Kansas.

In 1870 the Board of Regents elected him professor of horticulture and botany and placed him in his proper element. In the fall of 1873 he agitated the organization of a local horticultural society. The new organization was incorporated on January 24, 1874, with Professor Gale as its secretary, and from that time till this it has been the model local horticultural society of the State. In 1879 he became president of the State Horticultural Society, which office he held for six years.

In the spring of 1878 he was prostrated by a severe case of typhoid malaria and was forced for several months to abandon his College work. The State has no money for worn-out teachers, and, as the president, John A. Anderson, was not a friend of the enfeebled man, he was asked to resign. The reason for the disagreement of the two men consisted in the fact that they were political antipods and were prospective candidates for the office of congressman from the so-called North Kansas district. Anderson was a republican and Gale a greenbacker.

Broken down in health Professor Gale left in November, 1884, for Florida, where he acquired a piece of land near Lake Worth.

Compared with the status of modern botany and horticulture, the work of Professor Gale was not highly scientific. He had had no chance to penetrate deeply into the wonderful phenomena of plant life. His academic education was of a literary character.

While a teacher at this College he had no well-equipped laboratories, no high-power microscopes, no extensive scientific libraries, no large greenhouses, and no funds to make field experiments. Like all of his collaborators of the Faculty, he taught a large variety of subjects—too many to become an expert in any line. The conditions for doing high-grade work were unfavorable, yet he did an immense amount of pioneer work of a highly practical kind when such work was necessary, and did it with a heroic devotion—a devotion that robbed him of his health and sent him to Florida in his old days, an exile from the State which he had helped to build up. If it is true that he is a great man who makes two blades of grass grow where one grew before, Professor Gale must be ranked among the greatest.

But even here he could not stop his life work. He became the first president of the Lake Worth Horticultural Society, and it was largely through his efforts that H. E. Van Deman, United States horticulturist, was induced to visit and become interested in this section enough to have the government procure from India some Mulgoba mangoes, mangosteens and durians. Many Mulgoba mango trees were planted, but Gale was the only one who succeeded in keeping his alive, and they still remain as a living monument of his success as a Florida horticulturist. His wife died at their home in Mangonia, Florida, in 1893, and the aged professor followed her in November, 1907.

The Old Parade Ground.

VI.

THE REORGANIZATION—JOHN A. ANDERSON ELECTED PRESIDENT—ANDERSON'S MAXIMS—THE NEW EDUCATION—THE INDUSTRIALIST—A TESTIMONIAL—PERMANENT IMPROVEMENTS FROM 1874 TO 1879—STATE APPROPRIATIONS.

THE reorganization, in 1873, of the Agricultural College may be called an indirect result of the Grange movement. It is not within the reach of this limited sketch to discuss the causes of this great movement of the farmers of the West; we will simply state that it swept Kansas like a prairie fire. The supply of political fuel did not hold out, but, like the Populist movement that flamed up a quarter of a century later, it burned hard for a while and placed new men and new issues before the voters of the State. The farmers began to interest themselves in political, sociological and educational matters. Their "school" at Manhattan was investigated, and the conclusion was reached that it required a change of policy. Newspaper articles began to discuss the work and possibilities of the Agricultural College, and the horny-handed Grangers and their political leaders finally agreed that "something" should be done to make it fill its evident mission.

In accordance with an act of the legislature reconstructing the government of the several state institutions, approved March 6, 1873, Governor Osborn, in the spring of that year, appointed a new Board. Soon afterwards President Denison resigned, and the vacancy was filled by the election of Rev. John A. Anderson, of Junction City. This resulted in a radical change in the character of the institution. To this Board, counting among its members such men as Dr. Charles Reynolds, post chaplain at Fort Riley, J. K. Hudson, the founder of the Topeka *Daily Capital*, and to President Anderson, the State is indebted for the conception and inauguration of the educational policy which has placed the Kansas State Agricultural College near the head of the list of the land-grant institutions of America.

ANDERSON'S EDUCATIONAL MAXIMS.

In a "Hand-book of the Kansas State Agricultural College," published in 1874, President Anderson fully discussed his reasons for the changes made in the old system, a few of which are epitomized here:

1. It is impossible for most people to find time to study everything that it is important for some men to master.

2. The subjects discarded, in whole or in part, by each separate class of

students, should be those that it is supposed will be of least importance to them.

3. Of those retained, prominence should be given to each in proportion to the actual benefit expected to be derived from them.

4. The farmer and mechanic should be as completely educated as the lawyer and minister; but the information that is essential to the one class is often comparatively useless to the other; and it is therefore unjust to compel all classes to pursue the same course of study.

5. Ninety-seven per cent of the people of Kansas are in the various industrial vocations, and only three per cent in the learned professions; yet prominence is given to the studies that are most useful to the professions instead of those that are most useful to the industrial pursuits. This state of things should be reversed, and the greatest prominence given to the subjects that are the most certain to fit the great majority for the work they should and will pursue.

6. Most young men and young women are unable to go "through" college. Therefore, each year's course of study should, as far as practicable, be complete in itself.

7. The natural effect of exclusive headwork, as contradistinguished from handwork, is to beget a dislike for the latter.

8. The only way to counteract this tendency is to educate the head and the hands at the same time, so that when a young man leaves college he will be prepared to earn his living in a vocation in which he has fitted himself to excel.

9. Putting off the choice of an occupation until after the student leaves college as a graduate, instead of making it when he enters college, or as soon thereafter as possible, is a mistake.

10. Some agricultural colleges take as an objective point the graduation of agricultural experts, experimenters, professors of sciences, editors, etc.; the Kansas State Agricultural College should take as an objective point the graduation of capable farmers and housewives, and it should make an effort to graduate thousands of such.

11. Whatever else may yet need to be tried, there is no use in repeating the experiment of flying a literary kite with an agricultural tail, so often made in various quarters. It is a pleasant regential and professorial amusement, and quite attractive to an immediate locality; but there is nothing in it for the industrial student, whose estate pays for the kite. The fact that, out of some 600 students attending Cornell University last year, only two were studying agriculture, is enough for us.

THE NEW EDUCATION.

Adopting these views, the Board of Regents discontinued the school of literature and organized those of agriculture and the mechanic arts. Three new professorships were established, namely: Botany and entomology, Prof. J. S. Whitman; chemistry and physics, Prof. W. K. Kedzie; mathematics, Prof. M. L. Ward. In order to provide better accommodations for the students, the departments of instruction were removed from the old farm to the new one, where the finished wing of the barn was fitted up for class rooms. Workshops in iron and wood, a printing-office, a

telegraph office, a kitchen laboratory, and a sewing room were equipped and provided with instructors, and 50 minutes of educational manual labor was added to the daily work of every student. Three years later the course of study was reduced to four years—*i. e.*, the preparatory course was abolished, the teaching of Butler's Analogy, Latin, German, and French discontinued, and the requirements for admission lowered so as to connect the institution directly with the better grade of public schools.

In order to fully appreciate the efforts of President Anderson with regard to the reorganization of the work of instruction, it seems necessary to take a glance at the educational reform movement in other parts of the country. It is a fact not generally known, and one of which Kansas and the friends of this institution may well be proud, that the Kansas State Agricultural College was among the very first free schools of college grade in the United States where systematic daily manual work became an obligatory branch of instruction for all male students, and that it was the first institution of any kind in this country which reduced the minimum age of admission to such instruction to fourteen years. There had, of course, been numerous attempts to teach such work before, but it had either been made optional or else it was limited to certain departments. In the Worcester Free Institute, founded in 1865, and opened in November, 1868, the shop work was made obligatory only to the students in the course of mechanical engineering, all of whom were above sixteen years of age. In the Industrial University of Illinois shop work was provided only for the students in the architectural department. In Washington University, at St. Louis, the preparatory or manual training school, which, through the writings and enthusiastic work of its dean, C. M. Woodward, has become the pattern for schools of the kind from the Atlantic to the Pacific, and far beyond, and is usually considered as the pioneer institution that provided systematic instruction in wood and iron work for all of its pupils, made the first experiments in this line in 1872. The work, however, was limited to the polytechnic departments, and the age of admission of the pupils to fifteen years, while the manual training school was not organized until June 6, 1879. The Massachusetts Institute of Technology, where the "father of American tool instruction," Pres. J. D. Runkle, developed the analytical system of shop work, an improvement upon the Russian system of Professor Della Vos, did not commence instruction in iron work until the spring of 1877. The only American institution, in fact, which gave daily shop instruction to all its pupils,

previous to the reconstruction of the Kansas State Agricultural College, was the Stevens Institute of Technology, of Hoboken, N. J., created by the munificence of the great philanthropist, S. A. Stevens. It will be seen from these historic statements of the growth of tool instruction, that President Anderson was well in the front among the educators of the country who foresaw the

Hon. John A. Anderson.

coming educational changes; that he was a leader rather than a follower.

As might be expected, these changes of educational policy created some friction. Several members of the teaching force, disgusted with the reduction of the purely literary branches of instruction, resigned, while others, resisting the reorganization, were discharged. Even the newly-called members were more or less opposed to some of the methods adopted, especially with regard to the reduction of the course of study from six to four

years, and the abolishing of all instruction in Latin. The most intense feeling existed for a while. The students, encouraged by the attitude of the retiring professors, held indignation meetings, and debated the reorganization, and the attitude of the President and the new Faculty, in their literary societies. Nor did the resistance to the "new-fangled education," as it was sneeringly called, cease within a year or two. Four years after the change of policy the weekly *College News*, a paper published by Student Irving Todd, calls the study of "practical agriculture" "piratical agriculture," and contains the following sarcastic resolution offered in the meeting of the Webster Senate, one of the College literary societies:

Resolved, That the institution is altogether too high-toned; that such studies as metaphysics, histories, or anything which teaches religious principles, or any other principles which tend to enlighten and refine man, should be thrown out.

Another resolution, published in the *News*, reads:

"*Resolved*, That, in our judgment, the President of the Agricultural College, Professor Kedzie and Professor Shelton of the same institution, receive mere pittances in comparison to their services rendered. That their salaries ought to be raised at the expense of the other professors, and that Professor Shelton, especially, ought to receive $3000 or $4000."

The most determined opposition outside of the College had its center of gravity in Manhattan. The citizens, who considered the fight largely their own, were split into irreconcilable factions—"for Latin" and "against Latin." Petitions were sent to the Board requesting a change of policy in order to save the institution from certain ruin and the aid of the governor was evoked to remove President Anderson, who was described as an educational charlatan, and a man of unrefined habits and manners; but the management remained firm. Gradually the storm subsided. The new members of the Faculty began to assert their influence; the attendance did not fall off, as had been predicted; the legislature was satisfied with the change; and the "new education," though hardly more than an experiment as yet, had scored a victory.

THE "INDUSTRIALIST."

President Anderson was a prolific and vigorous writer. He defended his policy whenever and wherever he was attacked, and gave no quarter. A chief weapon during the struggle was the *Industrialist*, a small weekly, edited by the Faculty and printed by the Printing Department. The first number appeared on April 24, 1875, and the paper has been issued ever since. The salutatory

stated that the *Industrialist* was issued in the interest but not at the expense of the Agricultural College; "in part, to afford the members of the printing classes regular drill in the work of printing and publishing a weekly newspaper; in part, to photograph the work of the several departments of the Agricultural College, for the information of its patrons and the people; in part, to discuss the educational system and methods of Kansas from the standpoint of the rights and necessities of the industrial classes; in part, to contribute, so far as it can, such practical facts of science as may increase the profit or pleasure of the farmers, mechanics or business men or women of Kansas."

Among the articles and items the first number contains is a "Boiled Down" column of thirty-eight paragraphs, an advertisement for bids for the erection of the Mechanics Hall, the statement that 118 students had been enrolled during the spring term, and a statement of the reasons why the Mechanics Hall would be built on the "new farm" instead of the old one.

To one acquainted with the history of the College and the trials of those early days, it is a joy to read the old files of the *Industrialist* and to realize what effect the sledge-hammer blows of the little giant must have had among the Kansas papers. Anderson had opinions on everything of public interest, took a hand in the settlement of every question that came near him, gave no quarters to adversaries, and made the *Industrialist* one of the most widely quoted papers in the West. Manhattan fought him "tooth and nail" but he never wavered. The College grew larger and stronger, and at last they recognized the fact and became his supporters.

With the nomination of Pres. John A. Anderson to Congress, in the summer of 1878, the *Industrialist* lost its father. For nearly a year and a half the College was without a president, and the paper, like all other parts of the educational machinery of the College, lost its effectiveness. The editorial work was mostly done by Supt. A. A. Stewart, who was then a young man not old enough to vote, and the six or seven overworked members of the Faculty had but little time or interest for the newspaper orphan.

The election to the presidency of Prof. George T. Fairchild, of the Michigan Agricultural College, resulted in a revision of the course of study and a readjustment of the duties of the teachers; but he had no desire to continue the agressive educational efforts of his predecessor, and asked Prof. E. M. Shelton to become managing editor, who remained at the helm for over half a dozen years. He, too, was a vigorous writer and a practical man, but however positive may have been his treatment of agricultural sub-

jects, he was very careful not to discuss ideas not directly connected with agriculture. The Faculty, who previously had made voluntary contributions, were now made responsible for some of the editorial matter, while the writer of this history was requested to prepare a weekly column of "Kansas educational news." From time to time the Printing Department changed its superintendents, and every new typographer changed the "dress" of the paper. The size was gradually enlarged to about twice the number of ems, and the columns were made wider.

A short time previous to the departure of Professor Shelton to Australia, in 1890, he found his work as professor of agriculture so exacting that he asked to be relieved of the editorial work, and as there was no one willing to accept the editorship it was loaded upon the patient shoulders of the president. Doctor Fairchild was neither a prolific nor an easy writer, as Anderson and Shelton had been. His literary work was faultless in form, carefully worded, and logically constructed, but he lacked the vigor of thought and style of the former editors. The *Industrialist* became a model college paper, but its subscription list did not keep pace with its evolution. The students discussed plans for a weekly organ of their own, and though the Faculty counteracted this movement for a while by offering them a share in the editorial work of the *Industrialist*, the compromise was not able to retard the appearance (in 1895) of the weekly *Students' Herald.*

The remainder of this sketch of the *Industrialist* is soon told. When, following the reorganization of the Board of Regents in the spring of 1897, President Fairchild resigned, the Faculty discussed a change of the *Industrialist* from a weekly paper to a monthly magazine, and at the October meeting of the Board permission for the change was obtained. The reasons as stated in the last issue of the weekly were the following:

(1) The College needs an organ of a capacity that will permit the publishing of more extended articles and reviews, an organ that will permit the insertion of extracts from the bulletins of the Experiment Station, and the reports of the different departments; (2) the magazine form permits of the easier preservation and binding of the copies of a year, or of a term; (3) the work of mailing will be reduced, or at least consolidated; (4) the field of a weekly news-letter to the alumni, old students, parents and patrons is well occupied by the weekly *Students' Herald.*

Under President Will it regained some of its former vigor. It became an advocate of State socialism and was filled with articles on bimetalism from the pen of the President, social statics by

Professor Parsons, and state ownership of common carriers by Professor Bemis.

In 1899 the INDUSTRIALIST was again changed to a weekly, but it retained its pamphlet form. President Nichols became its editor-in-chief, with Prof. J. D. Walters as local and Prof. J. T. Willard as alumni editor. The paper, started by Anderson, is now in its thirty-fifth year. It is still the weekly news-letter to the friends of the College and the parents whose sons and daughters are in our care. Through storm and calm it has reflected our aims and methods; expressed our hopes and fears, and recorded our growth and progress, and thus it has become the historian of the great school of agriculture and the mechanic arts of Kansas.

AN INTERESTING TESTIMONIAL.

That the foregoing paragraphs referring to Anderson's reorganization of the College from a classical school to a technical institution, and the determined resistance which his efforts encountered are not overdrawn, may be judged from an article excerpted from the Kansas City *Gazette*, edited by Geo. W. Martin, who afterwards became the secretary of the State Historical Society. The article was published in April, 1897, at the time of Prof. Thomas E. Will's election to the presidency of the College, and was headed "The Fuss at Manhattan." Its style betrays the vigorous Western pioneer newspaper man:

"The present kick at Manhattan concerning the changes in the Agricultural College is not a patching to the kick when John A. Anderson was made president, twenty-four years ago. Prior to the election of John A. Anderson as president, the Kansas State Agricultural College was a one-horse country academy, whose Faculty were attempting to rival the State University, at Lawrence, and who had about as much conception of the agricultural-college act of Congress as a chimpanzee has of the solar system. The Regents did their utmost to make a change, and the difficulty was in finding an educator who would try the experiment and who had the genius to organize. The editor of the *Gazette*, then in the newspaper business in that neighborhood, had for years criticized the school, demanding a change, little dreaming that he had a friend at his elbow whom he was leading into the bitterest fight of a lifetime, and who was destined to make an eternal monument for himself in the reorganization of that school. The first article ever written calling for a change was by James Humphrey, while yet a citizen of Manhattan, and published by us.

"John A. Anderson had made quite a reputation at Junction City as a good preacher, who was also an all-around hustler, builder, and organizer, who stood in with the boys, and everybody followed him. One day a Regent of the Agricultural College, Maj. N. A. Adams, appeared in Junction City and suggested that he (Anderson) try the presidency. Anderson had no connection with the fight being made on the school; he scarcely knew

there was such an institution. We urged him that there was his chance to make or break. He was given two weeks to investigate. Never did a man work harder investigating a problem than did Anderson with the idea of industrial education and the intent of Congress. When asked what he thought about it, he remarked that 'if he went there he would bust it from stem to gudgeon.' 'You are the man we are looking for,' responded the Regent; and he was elected president, and then Hades began.

"The old crowd who didn't want to let go were aided by a paper at Manhattan and another at Junction City. Simultaneous with his opening the school in the fall, the Manhattan paper gave Anderson six columns of abuse. This was the open part of the fight. The Faculty, and everybody in Manhattan who could talk about a 'curriculum,' put in their time guying and sneering at Anderson and his new-fangled education. A social reign of terror was inaugurated in the town; everybody was making fun, and it seemed as though everybody was too cowardly to say a word for the new order of things. The *Nationalist* was quiet, and the other paper was pouring hot shot into Anderson by the whole page every week. The impression was created that Anderson was an escaped lion or tiger that was eating up the children and old women. His caliber was criticized, his executive ability doubted, and his integrity questioned. The first few months he begged for fair play; he urged that he would like to make an effort to do what the Regents had hired him to do, but he couldn't get fair play. The Regents were loyal to Anderson, and after a few months he turned loose and became a terror, and the old tabby-cats took to the brush. The Faculty attempted to ignore him, but they caught a Tartar. He picked the school up and moved it two miles nearer town. Suit was started to beat the school out of the property, but Anderson won. It was the most uncalled-for, inexcusable and vicious war ever waged upon a man in Kansas; but in five years Anderson made the school, and was sent to Congress, where he remained twelve years. And, as a result of the fight and Anderson's intellectual power and organizing ability, continued and expanded by President Fairchild, it is the first school of its kind on the continent, a marvelous contrast with the measly snide for which Manhattan tolerated such a hellish row. Anderson left a monument to himself which will not be equaled by another Kansas man in a century."

"We know what we are talking about when we say that if the change had not happened just when it did, and a man of Anderson's power placed in control, the legislature of 1874 would have wiped the school out and transferred the endowment to the State University, where we would have had an agricultural branch. A widespread disgust covered the whole State at the inability or determination not to meet the requirements of Congress, and the friends of the State University were organizing to gobble the whole thing. Anderson had been a Regent of the State University, and when he became President the movement weakened. He made an hour's speech before the legislature of 1874, and from that on he was enabled to get more money than anybody. When we think of the diabolism of that fight made by two-thirds of the people of Manhattan, and the indifference and cowardice of the one-third, waged upon a man brought among them to do the best he could with their own institution, the conclusion is forced upon us that if ever a town deserved to lose a thing Manhattan deserved to lose the Agricultural College. The war waged upon the old management saved the school to Manhattan."

STATE APPROPRIATIONS.

During the six years of Mr. Anderson's presidency the College received appropriations by the State legislature amounting to $79,552.93, as follows:

1874	$28,803 23
1875	13,675 24
1876	15,300 00
1877	7,774 46
1878	12,500 00
1879	1,500 00

A part of this was received for the purpose of canceling debts and accumulated interest dating from the administration of President Denison (College green-backs), and the remainder for buildings, repairs, and equipments, especially of the farm and the newly-organized departments of woodwork, printing, sewing, and cooking. The endowment fund having reached a total of $100,000 and the rate of interest being ten per cent at the time of Anderson's election to the presidency, no appropriations were required for meeting the running expenses. It is a fact of which the financial managers of the College can be proud, that from the time of its reorganization, in 1873, to 1893 the management never asked the State to contribute a single dollar, and never received a single dollar for professors' salaries or the ordinary expenses connected with instruction.

PERMANENT IMPROVEMENTS.

Of permanent improvements during Mr. Anderson's presidency may be enumerated the building, in 1875, of Mechanics Hall (the present wood-working shop), and in the year following of Horticultural Hall (now about to be torn down) and the chemical laboratory—at the time of its erection the best-arranged, largest and most complete chemical workshop west of St. Louis. The laboratory was built after sketches by Prof. William K. Kedzie, who, at his own expense, had visited Central Europe and the East to study the arrangement and furnishing of chemical workshops. In 1877 the main part of the present horse barn was constructed, after sketches by Prof. E. M. Shelton. The corner-stone of the north wing of the Main College Hall (now Anderson Hall) was laid in 1878, and this part of the building completed in February, 1879.

ANDERSON'S ELECTION TO CONGRESS.

In the summer of 1878 President Anderson was urged by leading Republicans of the (then) First Congressional District to become the candidate of the party for United States representative.

He accepted the honor, feeling that the work at the College requiring his peculiar bent of character, and which, perhaps, but few could have performed, was done. The institution was safe from reaction with regard to its course of study, secure from absorption by the State University, and past the threatening specter of finacial ruin. It had no name as yet among the institutions of learning of the land; its attendance was small, its library insignificant, and its apparatus lacked much that was absolutely necessary; but it had found its distinct sphere of usefulness. The debt, which in 1873 had amounted to over $42,000, was reduced to $18,000 endowment and $6000 current-expense fund. The productive endowment had grown to about $240,000 and the annual income amounted to nearly $20,000. Yet his election to Congress in November, 1878, and consequent resignation in August, placed the Board in a perplexing situation. Where should they find a man whose previous work and training would furnish a guaranty for success? There were plenty of candidates; indeed it seemed as if every defunct county superintendent or worn-out preacher in the State believed himself the man to pilot the newly-rigged vessel

"Through squalls and storms,
O'er rocks and riffs."

But no agreement could be reached until the following September, when Prof. E. M. Shelton suggested his former teacher, Prof. Geo. T. Fairchild, of Michigan Agricultural College, as a suitable man. Professor Fairchild was "called," came to Manhattan to make a personal examination of the condition of the College, and accepted the responsible position.

Old Horticultural Hall.

VII.

PRESIDENT ANDERSON AND HIS COLLABORATORS—CHARACTER OF THE MAN—HIS UNFLINCHING COURAGE—PROF. E. M. SHELTON—PROF. WM. K. KEDZIE—PROF. M. L. WARD—PROF. J. D. WALTERS—PROF. J. H. LEE—THE FACULTY.

PRES. JOHN A. ANDERSON.

JOHN A. Anderson was born in Washington county, Pennsylvania, June 26, 1834; graduated at Miami University in 1853, the roommate of President Benjamin Harrison; studied theology, and preached in Stockton, Cal., from 1857 till 1862. Early in that year he entered the army as chaplain of the Third California Infantry. In 1863 he entered the service of the United States Sanitary Commission, and his first duty was to act as relief agent of the Twelfth Army Corps. He was next transferred to its central office, in New York. When Grant began the movement through the Wilderness Anderson was made superintendent of transportation, and had under his command half a dozen steamers. Upon completion of this campaign he served as assistant superintendent of the canvass and supply department, at Philadelphia, and edited a paper called the *Sanitary Commission Bulletin.* At the close of the war he was transferred to the historical bureau of the commission at Washington, remaining there one year, collecting data and writing a portion of the history of the commission. In 1866 he was appointed statistician of the Citizens' Association of Pennsylvania, an organization for the purpose of relieving the suffering resulting from pauperism, vagrancy and crime in the large cities. In February, 1868, he accepted a call from the Presbyterian Church at Junction City, Kan., and remained its pastor until the fall of 1873, when he became President of the Kansas State Agricultural College, at Manhattan, which position he held until his election to Congress, in 1878. While President of the College, he was appointed one of the jurors on machine tools for wood, metal and stone at the Centennial Exhibition.

The subsequent history of John A. Anderson is equally characteristic of the man. He served as member of Congress from this district until the spring of 1891. During the fall campaign of 1890 the Farmers' Alliance movement had withdrawn from the ranks of the Republican party much of the element which had elected and reëlected him triumphantly in six consecutive elections. Anderson was not renominated, and refused to run "wild." The result was, that the Republican party, as well as its

trustworthy leader in this district, lost the seat in Congress. Of the large number of congressional bills which were introduced and advocated by Anderson may be mentioned the one reducing the postage of letters from three to two cents, and the one creating an Agricultural Department as a branch of the National Executive Government. He forced the railroad companies to close up their land grants and pay taxes upon their lands, and in the congressional appointment of 1880 he beat the committee on appointment and the orders of the Republican caucus, and obtained an additional congressman for Kansas. In March, 1891, Anderson was appointed consul-general to Cairo, Egypt, and sailed for his new post on April 6; but his already enfeebled constitution could not endure the change of diet and climate. In the following spring he decided to return, and died on his home journey, in Liverpool, England. His remains rest in Highland cemetery near Junction City, Kan., a necropolis of which he was the founder, by the side of his wife and parents.

ANDERSON ON WOMAN'S EDUCATION.

To-day "coëducation" is a settled pedagogical principle in every civilized country in the world, but it was not so half or a third of a century ago, and it may be said that its rapid and final acceptance in America is due to a considerable extent to the land grant colleges, which helped to solve this problem as they solved that of higher technical education. Anderson believed in coëducation and in a sensible and practical education of the woman. In a paragraph in his College Handbook of 1874 he discussed this problem in the following vigorous manner:

"If viewed from the standpoint of actual instead of ideal life, the course of study followed in the average female seminary will appear as a standing wonder. Judging by its points, it evidently assumes that a woman's work mainly consists in discussing literature, smattering French, executing operettas, and attempting to copy paintings without a knowledge of drawing. It assumes that the girl will not marry; or, if she does, that the strain of maternity will not test her constitution; that her children will never be sick; that her family will be oblivious to bad bread, worse coffee, and household confusion; that a flowerless garden will fill her husband with bliss, and a buttonless shirt with ecstasy; and, above all, that she will never, through any adversities or under any conceivable circumstances, be required to perform any possible kind of work! The world for which it prepares her is Dreamland, where the poetic 'Charles Augustus' awaits her arrival that they may sail in

a fairy ship over a placid ocean to his castle in Spain, and spend a perpetual youth in delicious wooing while the ceaseless moonlight sifts through overhanging leaves and exotic flowers perfume the air.

"'Charles Augustus' is a fraud! His true name is John Smith. He lives in Kansas and earns every cent by hard labor. He tears his clothes, snores, and eats unlimited quantities of pork and cabbage, which Mrs. Smith may have to cook, and at the same time preserve order among an assorted lot of little Smiths, energetic with mischief and having capacious lungs and elastic stomachs. It is not strange that the seminaries provide the usual course of study, for, like other merchants, they only supply the article demanded by the market. But it is strange that a mother who was herself so educated, and who, as a wife and housekeeper, has keenly felt her own ignorance of subjects that should have been taught, and her want of skill that might have been acquired, can be content to give her daughter the same unreal preparation for that which she knows to be real life.

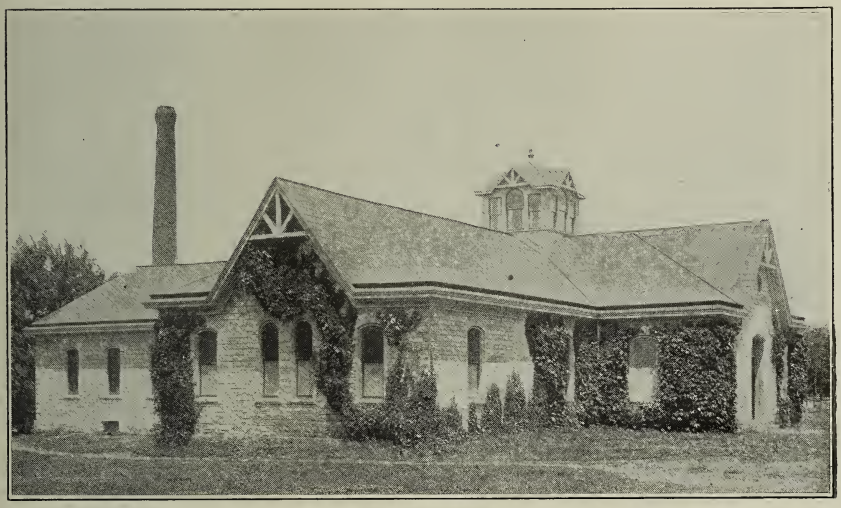
"Without raising the vexed question of woman's rights—whether the family is her proper sphere, or whether it be as broad as her success in professional and political life can make it—she undoubtedly has a right to be educated as a woman. She has a right to study her own organism and functions, to understand the conditions of health, and to be forewarned against the inexorable penalties of ignorance, folly, or overtaxation. She has a right to instruction respecting the proper care of the sick, for a mother's watchfulness and a wife's tenderness, when intelligently directed, are more potent than drugs in the struggle with death. She has a right to instruction and practice in the art of cutting and making her own clothing tastefully; in the art of cookery; in that of setting a table, brightening a room, beautifying a garden; in short, to all the knowledge which related sciences can contribute to her intelligence, deftness and efficiency in that greatest and purest of womanly arts, the art of making home brighter to the little ones than streets, more attractive to its adults than saloons—a quiet nook whence the pilgrim of three score and ten boards the ship that sails out into eternity's ocean. These are things which men cannot perform."

CHARACTER OF ANDERSON.

Of the personal friends whom John A. Anderson had all over Kansas, none was better fitted, perhaps, to draw a vivid pen picture of his character than Noble L. Prentis, who, when the sad

news of Anderson's death arrived in his home State, wrote the following in the *Kansas City Star*, of which he was the editor:

When I knew him first he was pastor of the Presbyterian church at Junction City. He was then in the prime of life—that was 18 years ago—living with his wife and children under the roof of his uncle and aunt, Col. John B. Anderson and wife, who had cared for him and his wife, who was a niece of Mrs. Anderson, from childhood. In those days I saw him day and night, and afterward, when he was, in 1878, the first time a candidate for Congress, we made the canvass together—Mr. Anderson, George W. Martin, myself, and other gentlemen, including the late Judge Nathan Price, of the great



Women's Gymnasium.

district comprising all Kansas north of the Kaw and of the Smoky Hill, at the time the most populous congressional district in the United States, and one of the largest in area. Five hundred miles of the country in extreme northwestern Kansas was made in an ambulance hired, with the driver, at Beloit. The prairies were high and wide, and it was in the brown October, and the appointments were far apart and there was plenty of time for conversation and reverie, and it was safe to say that, by the time the ambulance was back at Beloit and the railroad journeying begun, there was very little that any member of the party had ever dreamed of in his philosophy that was not in the possession of his companions. All the facts and experiences of life, and all the theories concerning this life and the life which is to come, were discussed.

In those days John A. Anderson spoke of all his life; of his student days at Miami; of his friendship there with Ben. Harrison, whom he remembered as a wrestler who would never give up or stay thrown; of his early days in California, when he was the Presbyterian pastor at Stockton, and built a church there; of his journeys in his own sail boat from Stockton to

'Frisco; of Starr King and Bret Harte, and the bright, young literary men he knew there; and of his work as a correspondent of the San Francisco *Bulletin*. Then he spoke of the outbreak of the civil war; of the divided state of things in California; of the division of his church, and the exodus of the Southern element from the church when he called, Sunday, on the God of Grant and Halleck and McClellan to bless the Union armies. He spoke of the raising of the "Bear flag" in Stockton, and the speedy cutting down of the same; and of his own enlistment as a soldier of the Lord and of the United States as chaplain of Col. Patrick Conner's Second California Regiment, and the march across the terrible Humboldt desert to Salt Lake and Camp Douglas. On some days the talk would turn on the sanitary commission, and his connection with it as its quartermaster at the "water base," wherever it might be, at City Point or elsewhere, following with his boats, as near as possible, the movements of the Army of the Potomac. More, however, than any of these things, he dwelt on his coming to Kansas after the cruel war was over; when he could have had an Eastern church and a good, plodding, easy time, and chose instead to come to Junction City, then a wide-open frontier place, marked by a distinct and plainly visible article of ungodliness; and how they built the fine Presbyterian church; and how he planted about the wall the spreading ampelopsis, which grows there still; and how the work went on in the hands of about the gayest, heartiest lot of Christians, and with the least affectation of piety, that have ever been gathered in this world.

After he went away to Washington, Kansas and his friends in Kansas saw less of him. His health and spirits were affected from the first by the air of Washington, and he got in the way of passing his vacations in a canoe on one of the northern lakes, with his eldest boy for company. He loved the wide waters, and was a sailor.

He stayed long in Congress, but was far from being a regulation congressman. He was not in the accepted sense a politician; I am not certain he liked politicians or that they liked him. He was not a good, strict, iron-bound party man. He did many things that the Republican party in Kansas never suggested to him. He advocated measures that "reformers" and "labor men" might have advocated; but he never joined any society of laborers. He had theories of a better world even on this terrestial ball. Politicians believe in the life that now is, and do not think of good things in the future, or even of the day of judgment. He did. He was one of the few "anti-monopolists" who have ever lived who really took steps to get anything away from the monopolies—as lands they did not own and back taxes.

In the year 1885 the first great and crushing affliction of his life fell upon him. In the death of his wife, a most noble woman, he lost his best friend. He had known her all his life. She was his companion in youth, the support of his manhood. He kept on at his work in Congress for five years after, but a changed man. His bodily infirmities increased. He had lost his hearing in one ear in his youth from varioloid, and he became deaf in the other. He became indifferent, evidently, and made no fight to speak of for a renomination in 1890. After his retirement from Congress he went away to Egypt as consul-general at Cairo; perhaps with a sick man's hope of recovery in a change—in any change. In that country of wide, burning sands and dead monuments of the dead, he grew worse; at the last he hoped that life might be persuaded to stay by the air and the breeze of home, and

died in the attempt to reach home. He was a remarkable man, in fact he was two men. He passed with the crowd for a rough man, careless of proprieties, sometimes of feelings. He was a clergyman; but he could not be persuaded to look and dress as some people think clergymen should. He hated a white neckcloth, he did not always reverence the men who wore them; but he was a sincere believer, from his mother's knee. None knew how gentle he was save the few who had felt the strong pressure of his great, warm hand, or seen his eyes fill with quick-coming tears.

ANDERSON'S UNFLINCHING COURAGE.

While Mr. Anderson is well characterized in the foregoing, there was one element in the man which Prentis failed to mention —his unflinching courage in meeting men and issues. He was of Scotch descent and some of his friends loved to trace this trait of character to the Highland chiefs of "auld lang syne." He had the courage to say no, be it in Congress or among his best friends in the evening parlor. He fought the railroads when such a course was considered the certain end of a congressional career. He disagreed with the Republican State Central Committee at a time when the State gave that party majorities equal to one-third of all the voters, and forbade them to send certain speakers into his district. He disagreed with the Faculty and stood out for needed changes, when nearly every member was opposed to his views. The writer of this sketch, from his own experience, can add the following:

In the spring and summer of 1877 the Board of Regents, at the instigation of Anderson, considered the reduction of the course of study from six years to four years, and finally voted the change. There were several reasons for taking the step. In the first place, the common schools of the State had commenced to furnish much better-prepared candidates for admission; secondly, it seemed best to place the possibility of graduation before a large number of students, in order to retain them; and thirdly, there was a discouraging lack of means—of class rooms, laboratories, apparatus, teachers, and funds. The Faculty had debated the question in meeting and in private, and a majority were bitterly opposed to a reduction. Strong reasons were advanced by these, but a main reason for the opposition was usually left untouched—the teachers of the studies that were to be cut out or pruned were afraid of losing their coveted high-grade work. It may also be added that there had been noticeable for some time an undercurrent of personal dissatisfaction among a group of professors. They considered Anderson's views as too radical and his educational reforms as too sweeping. Personal enemies of the President had spread the rumor that he was tired of his position; that he was looking for

another field of labor, and that it would be easy to worry him so that he would resign. The dissatisfied teachers, in secret meetings held during the summer vacation, finally prepared a carefully-worded petition to the Board, asking for a reconsideration of the step.

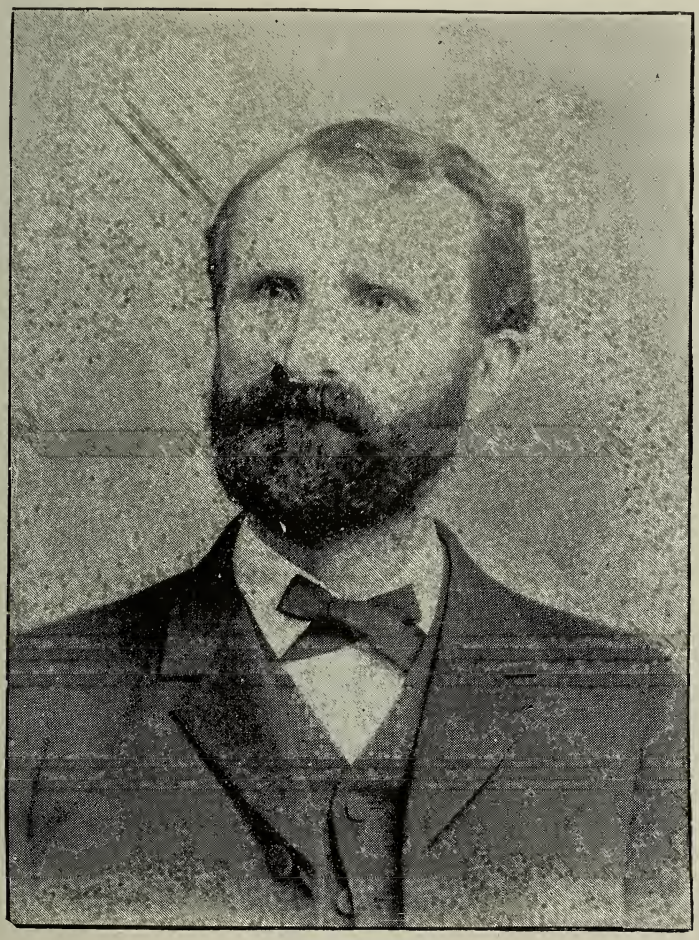
President Anderson had gone to Colorado for a mountain tour when he heard of the opposition of the leading members of the Faculty to what he considered a fixed matter, and returned in all haste. A Faculty meeting was called, in which Anderson demanded to know the reasons for the opposition to a reduction of the course of study. In this meeting he was greatly in the minority. The members of the Faculty siding with him were Prof. J. D. Walters, and Supts. A. A. Stewart and W. C. Stewart. The members opposed, though to an unequal extent, were Profs. M. L. Ward, W. K. Kedzie, Wm. Shelton, E. Gale, and E. Platt. One or two were absent. The meeting was a stormy one, but he met the opposing faction with such a positive determination that the whole matter was settled in an hour. The Board of Regents adopted his views, and the future proved the correctness of his conclusions.

PROF. E. M. SHELTON.

Among the new members of the Faculty none entered upon the work of reorganization with more zeal and sympathy, and assisted more effectively in bringing its practical work into favor with the farmers of the State, than Prof. E. M. Shelton, M. Sc., elected to the chair of agriculture in 1874.

Edward Mason Shelton was born in Huntingdonshire, England, August 7, 1846, and in 1855 came with his parents to America, settling in New York. In 1860 the family moved to Michigan. He received his education at the Michigan Agricultural College, graduating in 1871, and took a course of special study under Dr. Manly Miles. At this time an agent of the Japanese government was in this country seeking men for the advancement of the agricultural interests of Japan, and through him Mr. Shelton was appointed superintendent of the government experiment farm at Tokio. He was the first teacher of American agricultural methods and systematic farming in Japan, and, although ill health demanded his return to America at the expiration of a year, he left a strong impression upon the farming interests of that country. He next joined the Greeley colony of Colorado, but soon returned to his agricultural studies and investigations at the Michigan college, and from thence was, in 1874, chosen professor of agriculture and superintendent of the farm at the Kansas State Agricul

tural College, in which position he remained until the 1st of January, 1890, when he accepted a call by the governor of Queensland, Australia, to the honorable and responsible position of agricultural adviser to the government. In 1897 he returned to the



Prof. E. M. Shelton.

United States and settled in the Puget Sound country, where he engaged in the provision business, and later in mining speculations. His writings have been widely quoted, and his influence has been marked upon the trend of agricultural education of three different continents. He was secretary of the State Shorthorn Breeders' Association and of the National Association for the Advancement of Agricultural Science.

A letter by him from Australia, written in 1895 to the writer of this sketch, illustrates the drift of his practical mind. He said: "I am determined that this new school shall be an agricultural school. I can plainly see that the world needs to-day useful men rather than learned ones, and I, for one, am disposed to sacrifice the theoretical and literary for the practical and directly useful, whenever necessary. All this I have no doubt will shock college people, but it is the only system that is practical here." The quoted lines characterize the man to perfection. He came to Kansas when the State was overrun by land speculators, town organizers, and railroad-bond agitators. In those days farming was carried on in a slipshod way, and everybody was ready to sell his acres to anybody at almost any price. Shelton had the courage to warn against such methods, to caution against large land-holdings, to insist that the western part of the State must evolve a new system of farming, or suffer, and to force the legislature to appropriate funds for experiments in scientific agriculture. These radical efforts involved him in many a conflict with land-gamblers, but he never wavered. He was the first one, or one of the very first ones, in Kansas to advocate the introduction of the Chili alfalfa, and he did much for the introduction of Kafir-corn and other sorghum grains and grasses.

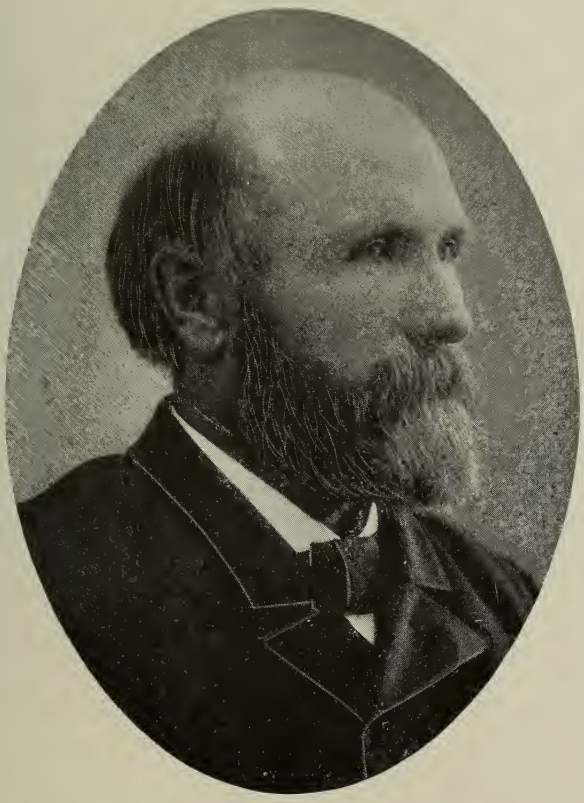
PROF. W. K. KEDZIE.

Prof. William K. Kedzie, M. Sc., was the eldest son of the veteran teacher of agricultural chemistry at the Michigan Agricultural College, Prof. R. C. Kedzie. He graduated at that institution in 1879, took a special course at the Sheffield Scientific School of Yale College, and became assistant to his father at Lansing, Mich., until his call to Manhattan, in 1873. Coming to the Agricultural College of Kansas at the time of its reorganization, he lent valuable assistance in shaping the course of instruction and giving the branches of chemistry, mineralogy, geology and meteorology the prominent position which they deserve in the curriculum of such an institution. While here he wrote a small text-book, "The Geology of Kansas." In 1878 he accepted a call to Oberlin College, Ohio, and died in 1880, in the prime of his life. Professor Kedzie was married in 1876 to Miss Ella Gale, a graduate of the College and a daughter of Prof. E. Gale.

PROF. M. L. WARD.

Prof. Milan L. Ward, A. M., was brought up on a farm, without early opportunities in school, but graduated from Hamilton College, N. Y., and afterward was ordained to the ministry in the

Baptist church. For some years he, with the assistance of Mrs. Ward, maintained a successful private academy at Ottawa, Kan., and from that was called, in 1873, to the chair of mathematics in this College. In this position, with many fluctuations of duties, he did faithful, energetic work for ten years, and often helped to hold together conflicting forces in the Faculty by combining ear-



Prof. M. L. Ward.

nest regard for the practical side of the new plans with an abiding faith in mental discipline as the foundation of all true education. During President Anderson's congressional campaign Professor Ward was made acting president, and, after leaving this College, in 1883, he was called to the presidency of Ottawa University, where he still remains as a member of the faculty.

The aged professor is remembered by hundreds of his former pupils as a stern disciplinarian of those who needed discipline and a kindly and fatherly teacher of all those who could appreciate

kindness. He left Manhattan at the time of the election of Governor Glick, and it is stated by his friends that his reasons for leaving were of a purely "political" kind. Having been a strong advocate of the prohibition movement and a warm personal friend of Governor St. John, he felt that it would be imprudent to wait for the partizan guillotine.

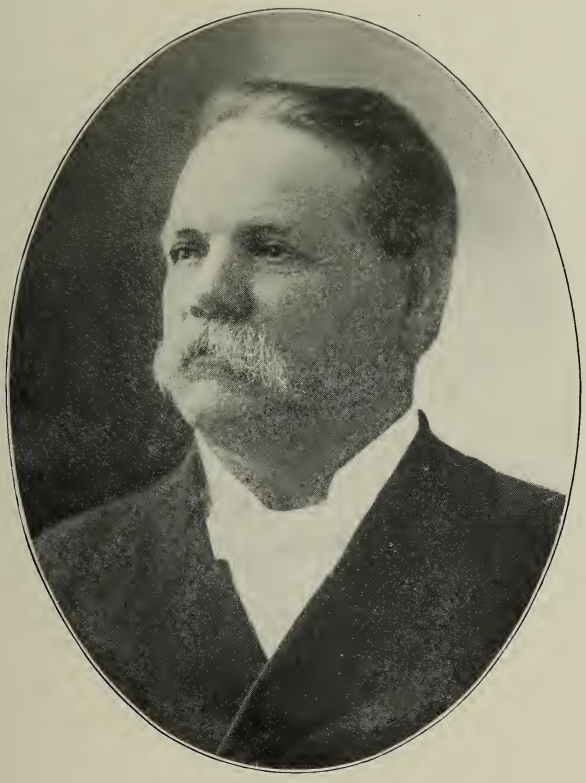
PROF. J. D. WALTERS.

Prof. John D. Walters, M. Sc., D. A., was born in Unterramsern, a little country town in western Switzerland. His father was a civil engineer and contractor (county surveyor of Riley county, Kansas, in '93 and '94). The professor received his primary education in the communal schools of his canton and learned at an early age the German and French languages. In 1860 he entered the high school (Secundar Schule) of Bucheggberg and graduated in '63 at the head of his class. He then entered the Cantonal College and Normal School of Solothurn and, being a graduate of a high school, was permitted to enroll in the third class of the five-year technical course (Gewerbe Abtheilung). Business reverses in his parental home and the subsequent emigration to America of his father forced him, after a year and a half of study, to teach school for a while. In 1864-'65 he taught the ninth and tenth grade of the public schools of Oberbalm, near Bern, and the next year he became assistant in mathematical branches in the Klingenberg Experiment Station of the Thurgovian Agricultural College. During these two years he made up by private study the work of nearly a full year of the college course, and in the fall of '66, being now of age, he successfully passed the exacting examinations for the life diploma of a Swiss teacher. He then returned to his Alma Mater and finished the course. Being without sufficient means he "worked his way," and had a rather tough time of it. He started with ledgering in a store a few hours every day. Later he gathered news for the *Tagblatt*, and still later wrote paragraphs and short stories for the Sunday edition. The publishers paid him only a few cents per "square" for these maiden literary efforts, but collected them in separata, from the sale of which he met part of his expenses.

It had been his intention to study architecture at some art center after graduation, but he now found that his means would not allow the selection of such a costly career and that this profession was greatly overcrowded in Switzerland. He therefore turned to civil engineering and took a course in the University of Bern (Das Schweizerische Katasterverfahren), after which

he worked for a time at geodetic surveying (triangulation) in the cantons of Solothurn and Neufchatel.

In the meantime his parents had emigrated to Pittsburgh, Pa., and he concluded to go west also, landing in New York late in the fall of '68, without means and without a knowledge of English; that is, without the ability to speak it. After working for a num-



Prof. J. D. Walters.

ber of years as civil engineer, decorative painter and architectural draftsman in several states and many cities, he was elected instructor in industrial drawing in the Kansas State Agricultural College, taking charge of the department as its head in January, '77. During the first years of his connection with the College, the Faculty was small and it often became necessary for instructors to teach a variety of subjects. In addition to drawing, the professor taught classes in geometry and trigonometry, and for several years had charge of the College orchestra. His Pestalozzian methods of teaching, his perfect discipline in the class room, his

natural demeanor, and his interest in the auxiliary work of the College—especially in building matters—soon made him a permanent feature of the institution, and the successive Boards have not been illiberal in "recognizing" his efforts. In '83 he was given the degree of master of science; in the spring of '85 he was made professor of industrial art and designing; at the time of the organization of the course in architecture in '03 he was made professor of architecture and drawing, and on Commencement of '08 he was given the degree of doctor of arts.

The professor has taken much interest in the development of manual training as a branch of high school and college instruction, and in the growth of laboratory methods in teaching science in higher institutions of learning. For three years he was secretary of the industrial section of the N. T. A., and at the Nashville meeting read a paper on "Aims, Ways and Means in Manual Training." For many years he was chairman of the standing committee of landscape gardening of the Kansas State Horticultural Society. In '85 he published a series of text-books on free-hand drawing for mature pupils, in '91 a series of four books on elementary graphics, and in '98 a series of sixteen consecutive text-books on industrial drawing for common and high schools, a series that was published by the American Book Company and was widely adopted by schools throughout the West. In '03 he obtained permission of the Board of Regents to organize a regular four-year course in architecture, and to this day has been successful in maintaining its high standard. A picture of the professor as he appeared eight years ago will be found with this paragraph.

PROF. JAMES H. LEE.

When giving credit to the men who have located and organized the Kansas State Agricultural College, to those who have fought for its existence in the halls of the legislature, to those who have looked after its financial affairs, or to those who have advanced its rank among the educational institutions of America, the conscientious and energetic teacher in the class room should not be forgotten, and among these early pioneers Prof. James Hervey Lee, A. M., is one of the most deserving.

Professor Lee was born in Savannah, Ashland county, Ohio, July 11, 1830. His grandfather came to America from Ireland and located in Pennsylvania, where, in 1802, the father, William Lee, was born. William Lee was a wheelwright, but, after carrying on his trade in Ashland county, Ohio, for about ten years, he devoted himself entirely to farming, first in Ohio, afterwards in

Michigan, and finally at Manhattan. Professor Lee received his primary education in the public schools of Ohio, and at the age of eighteen commenced teaching; but, being desirous of a better education, he soon gave up this work and started to Kenyon College, with a capital of eleven dollars and plenty of gumption and grit. Here he worked and studied and managed to graduate. He

Prof. James H. Lee.

then entered the theological course of the same college, and while studying he taught in the grammar school. In 1862 he was ordained minister and deacon in the Episcopal church and became assistant to the rector of St. Paul's church at Steubenville, Ohio. Two years later he went to La Porte, Ind., as rector of a church in that city. In 1866 he came to Manhattan to accept the position of rector of the St. Paul's church in this city and also the chair of classics and English literature in the Kansas State Agricultural College, occupying the latter position until 1875.

The reorganization of the College under Pres. John A. Anderson greatly reduced the work of classical teaching and increased

that of scientific and technical instruction. Professor Lee was at that time one of the strongest men in the Faculty, but he was not in full accord with the newly appointed President and his methods of reorganization. He was an adherent of the "humanistic school," and it hurt him to see his beloved work in history and literature reduced—almost anihilated. Two years after the reorganization he left the College, where he had worked faithfully for a decade, and started a private academy of languages in Manhattan. In 1880 he became superintendent of public instruction of Riley county, which position he held till 1891, when he was elected professor of English literature in St. John's School, at Salina, Kan. In 1887 he retired to private life at Manhattan, where one of his daughters, a graduate of the College, is librarian in the Carnegie Library. The ex-professor is a dignified and kindly old gentleman, respected alike by his former pupils and by the citizens of Manhattan.

HON. STEPHEN M. WOOD.

Hon. Stephen M. Wood was appointed a Regent of the College in 1877 at a most critical period in the history of the institution. President Anderson had just fully inaugurated his new policy and had told the people of the State, in his handbook, that he did not believe in "classical education" for the farmer and the mechanic. Many educators and patrons refused to accept his maxims and opposed him at every step. There was division and disloyalty in the Faculty. Had the Board been less determined in their assistance, the whole reorganization might have ended in a fiasco and in the speedy removal of the College to Lawrence to become a department of the State University. For six years Regent Wood stood shoulder to shoulder with the administration and the best interests of the institution, and helped to find ways and means to make this a College for the farmer and the mechanic.

In a letter to the writer, dated June 15, '98, Mr. Wood said: "If you can remember, when I came into the Board there were less than a hundred students in actual attendance and a lot of debts; when I left there were several hundred and about $10,000 in the expense fund. I am prouder of my work there than of any other public service I have done. But the best thing we did for the College, next to getting Fairchild at its head, was the placing of it before the legislature and convincing them that in accepting the land grant they had pledged the State to provide funds, room, and appliances."

Stephen M. Wood was born at Mount Gilead, Ohio, in 1832. He was brought up on a farm and received a common school education.

In 1855 he engaged in farming in Cedar county, Iowa, until 1861, when he entered the volunteer army as second lieutenant of the Sixth Missouri Cavalry. Here he was rapidly promoted until in 1864 he became pontoon brigade quartermaster. In the spring of 1866 he came to Kansas and located in Diamond Creek township, near Elmdale, Chase county, where he resided until his death

Hon. Stephen M. Wood.

in 1906. His farm of 640 acres was one of the finest in the State.

Mr. Wood twice represented Chase county in the lower house of the legislature, and was senator from his district once. He became a Regent of this College in April, 1877, and was reappointed in 1880. During the last four years he was president of the Board. As has already been stated, no small part of the progress of the College in those eventful days was due to his clear insight in all matters of financial or practical nature, and his earnest and energetic performance of the duties of his trust. Hon. Stephen M. Wood deserves to be named among the prominent "Makers of the Kansas State Agricultural College."

VIII.

FROM 1878 TO 1879—PROF. GEO. H. FAILYER—PROF. E. POPENOE—SECY. I. D. GRAHAM.

FROM February to December, 1879, and to some extent from the time of Anderson's nomination for United States representative, the executive work of the College was faithfully performed by the acting president, Prof. M. L. Ward. It was a trying year for the yet feeble institution. Against Anderson's wishes, the College naturally became the battle-ground for much of the usual legitimate and illegitimate campaign work, and the target for his opposition. The nomination, by the Greenback Party, of Ex-Prof. E. Gale for congressman made the political sky red hot, especially in Manhattan and Riley county. The Greenback Party, a forerunner of the Populist phalanx, was strong and belligerent in this campaign and, to make matters worse, the two opposing candidates—Anderson and Gale—had been anything but good friends for several years. The Faculty, though loyal to the great trust, was not as harmonious as could have been wished, and there had been changes made in two of the chairs during the summer. All the officers were underpaid and overworked, and there was no chance to increase salaries or the teaching force, the legislature of 1877 having decreed that not over $15,000 of the interest on the endowment fund should be used to pay instructors or teachers in said College until the debts of said College be paid in full, and "until said College shall refund to the State all moneys advanced by the State to pay for instructors and running expenses." In accordance with this "ukase," the salaries of the majority of the members of the Faculty had been reduced, in some cases as much as $400, while the work was constantly increasing in all directions. In his department report for 1878-'79, Professor Ward said: "In the discharge of my duties as a professor, I will simply say that I have done as best I could under the circumstances," and a prominent friend of the institution wrote: "It was a year of drudgery and heroic devotion to the cause and to the College, for which the Acting President and his collaborators received neither proper credit on the part of a wrangling Board, nor proper pay on the part of a rich State."

PROF. GEO. H. FAILYER.

Prof. George H. Failyer, M. Sc., was born in December, 1849, on a farm in Mahaska county, Iowa. When he was six years old his father moved to Page county, Iowa, then on the extreme frontier,

and settled on a preëmption claim. There he attended the public schools, and afterwards studied at the Amity Academy for two terms. In April, 1868, he accompanied his father to southeast Kansas, and took up a claim in connection with his father on the Cherokee neutral lands. From this time to September, 1873, he was engaged in the usual farm work of a new country. In September, 1873, he entered the third year of the (then) six-year course at this College, and graduated in 1877—having found time during his course for special work in chemistry. After graduation he taught school for one year in Chautauqua county, Kansas, and was called from there in 1878 to the chair of chemistry of his *alma mater*. In 1879 he received the degree of master of science. From the necessities of the institution, the teaching of various other subjects at different times fell to his lot, especially mineralogy, physics, meteorology, and geology. In 1880 he spent a term in special study under Prof. R. C. Kedzie, at the Michigan Agricultural College. He was one of the chemists of the State Board of Agriculture and has been president of the Kansas Academy of Science, who, in recognition of his valuable services, elected him in 1892 to an honorary life membership. At the organization of the State Experiment Station he was made chemist of the Station. He is the author of a hand-book for students in qualitative analysis, and the inventor of chemical apparatus and methods of some importance in this branch.

Professor Failyer lost his chair in 1897 in the populist "reorganization," and has since his resignation worked as expert in the Division of Soils of the Department of Agriculture, Washington, D. C.

PROF. E. A. POPENOE.

Prof. Edwin Alonzo Popenoe, A. M., was born in 1853, in Montgomery county, Ohio, and received his primary education in the common schools and in the village high school in McLean county, Illinois. Removing, in 1869, to Topeka, Kan., he began in the following year a preparatory course in Washburn College, where he studied six years, graduating in the classical course in 1876, and receiving the degree of master of arts from the same institution a few years later. After graduation he taught a year in the Shawnee county schools, and a second as principle of the Quincy school, in North Topeka, resigning the latter position in 1879 to accept the chair of botany and horticulture in the State Agricultural College, where his duties included the instruction of classes in zoölogy and entomology and the superintendence of the orchards, gardens, and grounds. At the division of duties in 1883, he was assigned to

the chair of horticulture and entomology, which he occupied till 1897, when the populists asked him to resign. In 1899, he was reëlected and occupied the chair of zoölogy till 1908, when he retired to his beautiful farm near Topeka.

The professor is a member of the American Ornithologist's Union, a life member in the Kansas State Horticultural Society and in the American Pomological Society. He was vice-president for

Secy. I. D. Graham.

Kansas in the American Forestry Association, and secretary of the American Horticultural Society. He was for many years secretary of the Kansas Academy of Science, and one of the official entomologists to the State Board of Agriculture.

SECY. I. D. GRAHAM.

Secy. Ira Day Graham, A. M., was born in Vinton, Iowa, on August 29, 1856. Two years later his parents removed to Knox county, Illinois, where he grew up. He received the usual common-school training, and entered Abington College, Abington, Ill., at the age of sixteen years. From that college he received the degree of bachelor of science, and in 1885 the honorary degree of master

of arts from Eureka College, Eureka, Ill. After leaving college he served several years as a telegraph operator and railroad agent, and taught a number of terms in the common schools of Illinois and Kansas. In 1879 he was elected instructor in telegraphy in the State Agricultural College. Later he was made Secretary of the College and teacher of bookkeeping and commercial law. He resigned in 1898 to become a partner in the Sedalia (Mo.) Business College. Later he turned to newspaper work. He became traveling reporter and agent of the *Topeka Capital* and still later associate editor and partner of the Kansas Farmer Company, which position he still occupies. Mr. Graham has taken much interest in the different agricultural organizations of the State and is one of the founders of the Kansas Dairy Association.

FACULTY ROSTER IN 1879.

At the close of Anderson's presidency, that is, in December, 1879, the Faculty consisted of the following members: John A. Anderson, A. M., president, and professor of political economy. Milan L. Ward, A. M., professor of mathematics and English. Edward M. Shelton, M. S., professor of practical agriculture, superintendent farm. George H. Failyer, M. S., professor of chemistry and physics. Edwin A. Popenoe, A. M., professor of botany and zoölogy, superintendent of orchards and gardens. Jeremiah E. Platt, A. M., professor of elementary English and mathematics. John D. Walters, instructor in industrial drawing. Timothy T. Hawkes, superintendent of the workshops. George F. Thomson, acting superintendent of printing. Ira D. Graham, superintendent of telegraphy. Mrs. Mary E. Cripps, teacher of household economy and hygiene, superintendent of sewing. William L. Hofer, teacher of instrumental music.

IX.

ELECTION OF PRES. GEO. T. FAIRCHILD—A PERIOD OF PROGRESS—STATE APPROPRIATIONS FROM 1880 TO 1897—PERMANENT IMPROVEMENTS FROM 1880 TO 1897—APPARATUS AND LIBRARY—FARMERS' INSTITUTES AND AGRICULTURAL EXPERIMENTS—THE FACULTY.

THE election in the fall of 1879 of Pres. George T. Fairchild, formerly professor of English literature in the Michigan Agricultural College, ended the "interregnum" and gave a new impetus to the institution. The new president was an earnest, methodical and quiet man, a keen observer, and a patient worker.

The wish of the Faculty and the Board, that no radical changes be made in the policy, met with his fullest accord. Yet his educational experience, the result of similar work at the oldest agricultural school of the land, soon bore fruit in the adoption of improved methods of instruction and a better adjustment of work and existing means. The collegiate year was divided into three nearly equal terms of 14, 12 and 11 weeks respectively, instead of two unequal terms as before. The course was strengthened by more definite classification of students, and by adding a term of psychology to the work of the fourth, and English literature and engineering to the work of the third year. The system of industrial training was broadened by distinct arrangement in shops, farm and garden, kitchen laboratory, dairy, and sewing rooms. The preparatory, or "B" first-year class, which had been organized in 1878 by Acting-President Ward, was maintained, but it was reserved only for students from the country who were over eighteen years old and who could not pass the entering examination. A scheme of Friday afternoon lectures and declamations was inaugurated, and weekly rhetorical exercises were added to the work of all classes. Monday afternoon Faculty meetings for the discussion of ways, means and discipline were organized. Standing committees on grounds and buildings, public exercises, social and literary entertainments, class grades, postgraduate work, farmers' institutes, museum, library, *Industrialist*, physical exercise, etc., were appointed, and a more comprehensive system of accounting adopted—the secretary of the Faculty, Mr. I. D. Graham, being given direct responsibility for accounts with all funds and all departments.

It is not possible, within the limited space of this sketch, to speak at length of the development of the College during the seventeen years of Fairchild's presidency, for there was progress

in everything. Many important improvements or reforms must be overlooked entirely, while many others have not yet had time to produce their intended effects, and can hardly be considered history.

The number of students increased almost every year, as may be seen from the following schedule:

Year.	Attendance.	Year.	Attendance.
1878-'79	207	1888-'89	445
1879-'80	276	1889-'90	514
1880-'81	267	1890-'91	590
1881-'82	312	1891-'92	584
1882-'83	347	1892-'93	587
1883-'84	395	1893-'94	555
1884-'85	401	1894-'95	572
1885-'86	428	1895-'96	647
1886-'87	481	1896-'97	734
1887-'88	472		

The senior classes showed a similar increase. In 1880, the class numbered 7; in 1888, 22; in 1889, 25; in 1890, 27; in 1891, 52; in 1892, 35; in 1895, 57, and in 1896, 66. During this period the postgraduate students increased from 2 in 1879-'80 to 46 in 1896-'97.

STATE APPROPRIATIONS FROM 1880 TO 1897.

During the presidency of Mr. Fairchild the Kansas State Agricultural College has received appropriations by the legislature as follows:

Biennial Session, 1881	$ 52,729 09
Biennial Session, 1883	25,500 00
Biennial Session, 1885	22,013 44
Biennial Session, 1887	22,128 79
Biennial Session, 1889	19,325 91
Biennial Session, 1891	13,166 75
Biennial Session, 1893	78,525 00
Biennial Session, 1895	27,805 00
Biennial Session, 1897	50,300 00
Total	$311,493 98

(These appropriations do not include the *per diem* and mileage pay for the Board.)

In addition to these cash items, the College received from the State the necessary printing and binding since 1883, and all needed fuel since 1889—privileges which, for the last few years, aggregated between $2000 and $3000 annually. No appropriations were made for the year ending June 30, 1880, but in the following year the legislature, in addition to the appropriation stated above, made provisions for the restoration by the State of $17,979.09 of endowment and income which had become lost to the College from various causes during the past ten years, and which, according to the organic act, and with the agreement of the legislature, the

State was bound to replace, so that the capital of the fund "shall remain forever undiminished." The main part of the appropriations for this period was received for the erection of the main College hall and the extensive farm buildings. No appropriations were asked or received for teachers' salaries or running expenses during Fairchild's presidency.

IMPROVEMENTS FROM 1880 to 1897.

The most important improvement made under President Fairchild's administration is the finishing of the main College build-

Anderson Hall.

ing, *i. e.*, of its central part, in 1882, of its south wing in 1884, and of its chapel addition in 1887. The building was planned by President Anderson in 1877, and owes its peculiar form of three separate wings or parts, connected by lower corridors, to the expected difficulty of obtaining a sufficient appropriation by the legislature for the entire completion in one fiscal period. The plans and superintendence were furnished for the principal structure by Architect E. T. Carr, of Leavenworth, and for the chapel addition by Prof. J. D. Walters. President Fairchild changed the original designs in several particulars, notably by adding an attic to the central part and a basement to the south wing—additions which, without materially increasing the cost, improved both the appearance and the capacity. The building as it now stands has cost about $75,000.

Of other permanent improvements, may be named the erection,

in 1885, of a President's residence; the construction, in 1885, of the north wing of the barn, and the addition to this of the piggery, in 1886; the rebuilding of Armory Hall, in the same year; the placing in Mechanics' Hall of a steam engine and a number of fine wood-working machines, in 1885-'87; the building of the greenhouse, in 1883; the enlargement of the chapel, in 1887; of the horticultural laboratory, in 1888, and of the horticultural barn, in 1889. The plans and superintendence for these buildings were

Mechanics' Hall.

furnished by Prof. J. D. Walters. In 1883 and 1884 the main roads of the farm were graveled, and in the spring of 1885 the grounds were platted for planting and future improvement in road building by a professional landscape gardener, Max. Kern, of St. Louis. In the same year a tract of forty-four acres of land was added to the farm by purchase, sixteen acres having been added some years previous. In the spring of 1891 another small tract of about four acres was bought. The College now possessed in two farms a total of 319 acres.

The President's residence mentioned above was a neat and solid two-story stone structure of eleven rooms. It had cost about $6000. The building burned to the ground on the night of April 5, '95, being struck by lightning. President Fairchild had his

furniture insured for $600 and his library for $900. The site of the residence is now occupied by Agricultural Hall.

In 1888, the city of Manhattan built a very complete system of waterworks, with a pumping station near Blue river, and a capacious double reservoir on top of Bluemont, a neighboring hill several feet higher than the tower of the main building of the College. In the following winter the legislature appropriated $3000 for an extension of the pipe line upon the College campus, and about the 4th of July, 1889, the buildings, greenhouses and

Barn.

lawns were supplied with an abundance of pure water—a considerable factor in the economy of the scientific and agricultural departments, and a safeguard, in case of fire, for the buildings and other property. Another appropriation of $3000, made by the legislature of 1891, for an extension of the water service, and for water-closets and sewers, provided the College with a complete water and drainage system.

The same legislature appropriated $4000 for an addition to the mechanical workshops, for the purpose of providing the needed room for the extension of the course in iron work, and Prof. O. P. Hood, with characteristic inventiveness and energy, and doing a large part of the work with his pupils, built a roomy, well-lighted and ventilated shop, mostly of stone and steel, which will be a model for its purpose for years to come.

The inventory of 1892 of the College enumerates the following lands, buildings, and equipments:

Total number of acres	319	Value of farm equipments	$ 11,396 80
Acres under cultivation	230	Value of shops	11,500 00
Acres used for experiments	180	Value of shop equipments	13,115 38
Value of lands	$38,700 00	Value of all other buildings	114,350 00
Value of farm buildings	10,760 00	Value of all other equipments	99,137 78

APPARATUS AND LIBRARY.

Carefully made purchases of scientific apparatus, and untiring efforts in gathering natural-history specimens, gradually provided the different departments with equipments valued all together at more than $150,000. Much credit for this was due to individual effort of the professors. The rapidly growing collections from the fields of zoölogy, botany, entomology, mineralogy and geology cost the College almost nothing. Not even the Board of Regents, perhaps, were aware of the *esprit du corps* existing among the Faculty with regard to this and other matters.

The library was moved to the northeast wing of the main building from the northwest room of the old Bluemont College building in 1878 by Acting President M. L. Ward, who was the librarian from 1875 until 1883. It consisted at that time of less than 1250 valuable and well-preserved books; the remainder, some 800 volumes, were either entirely worn out, or they were works of almost no use or value—old Greek and Latin dictionaries and commentaries, religious monographs, sermons, old and poorly printed fiction, government reports, etc.—a state of things not to be wondered at, when it is remembered that the greater part of the collection consisted of donations, solicited in the eastern states by Pres. Joseph Denison and Agent I. T. Goodnow, and that during Anderson's presidency neither funds nor space were available for this purpose. From that time, however, there was rapid growth. Acting librarian, Prof. W. H. Cowles, reported the number of books on the shelves June 30, 1884, at 5740 bound volumes, 1300 pamphlets, and several hundred duplicates. A card catalogue of topics, commenced by Professor Cowles, was completed to date, in 1885, by the acting librarian, Prof. B. F. Nihart.

Prof. D. E. Lantz took charge of the library in September, 1886. His first report catalogues 6572 bound volumes, 2350 pamphlets, and 360 duplicates, valued in the aggregate at $10,358.51. In 1888 the number had grown to 7453 bound volumes, 2490 pamphlets, and 352 duplicates, with a total valuation of $12,172.04; and in 1890, to 9749 bound volumes, 349 duplicate volumes, and 3126 pamphlets —a total of 13,224. In 1897 the College library consisted of over 16,000 bound volumes and about 4000 pamphlets, and was valued

at over $31,000. It was selected mainly with a view to supplementing the class-room instruction in the various departments and the work of the Experiment Station. One of the main endeavors of the Faculty was to complete the sets of government and State reports pertaining to agriculture, horticulture, finance, and education. Hundreds of letters were written to government officers, in all parts of the country, soliciting such volumes. Sets of leading scientific and literary magazines were completed by pick-

Armory.

ing up missing numbers or volumes wherever there was a chance. The books were indexed in a card catalogue and all students were given free access to the book shelves.

FARMERS' INSTITUTES.

The Kansas State Agricultural College, from its foundation, recognized the farmers' institute as a means for disseminating newly discovered facts and methods pertaining to agriculture and horticulture. Short conventions of the farmers of the vicinity of Manhattan were held at the College as far back as 1864. The first well-organized and widely-advertized farmers' institute under the auspices of the Faculty was held in Manhattan, January 2-10, 1872. It was well attended by representative farmers from all parts of the State. During Anderson's presidency little was done in this direction, chiefly because the newly organized industrial departments demanded the undivided attention of the teachers; but upon

the election of President Fairchild the College arranged for the holding every winter of at least six institutes, in as many different counties in the State, and increased the number a few years later to eight, and still later to ten. A permanent Faculty committee was appointed to arrange with parties interested, and there was considerable enthusiasm within and without the institution with regard to this practical work. The farmers' institute proved a valuable means for strengthening the tie between the College and its patrons, and for bringing the best element of the youth of the State to its class rooms.

The institutes were usually held during the months of December, January, and February, but application was required by the 1st of November. The plan or program of these gathering was simple. They became meetings of farmers and their families with the representatives from the College for mutual discussion and information upon matters of interest in farm life, including the home. The local expenses for hall, advertising, etc., were met by the institute. The College sent three or more members of the Faculty, paying all their expenses.

During the seventeen years of Fairchild's presidency nearly 150 of such "College extension courses" were conducted under the auspices of the Faculty in different parts of the State. Some fifteen or more institutes, attended by one or two members of the Faculty, are not enumerated in this statement. In most of the counties where these institutes were held permanent organizations for effecting such gatherings once a year or oftener were formed, and the reports from all parts of the State showed that the good work was and is still kept up by local interest.

In February, 1895, the College made an unsuccessful experiment with a "Short Farmers' Course." It lasted two weeks and had a rich and varied program, but, although well advertised, it was poorly attended. In 1896 the experiment was repeated, but the results were no better, the attendance from beyond Manhattan never amounting to over a dozen. In 1897 the experiment was abandoned, to be revived again with success in 1907.

AGRICULTURAL EXPERIMENTS BEFORE 1897.

Inexpensive attempts at field and laboratory experiments were made by Professors Gale, Shelton, Kedzie, Failyer and others from the time the Agricultural College built its first chemical laboratory and planted its first garden and nursery, but the income of the institution was so limited that very little could be accomplished. In Chapter XIV will be found a synopsis of the work from the begin-

ning to the present day. During the presidency of Professor Fairchild this work gained a new aspect by the passage by Congress, in 1887, of the "Hatch bill," which provided for the organization in each State of a station for experiments in line promotive of agriculture. The legislature designated this College as the proper place for the Kansas station, and measures were taken to carry out the provisions of the bill. A small building, with five greenhouses attached, was erected, and experiments, mostly in the line of seed and variety testing, were at once begun—work that during the last dozen years resulted in much good to the State. (See Chapter XIV.)

THE FACULTY.

The steady growth of the College made necessary an increase in the teaching force, and this again made possible the assigning of the work of instruction to specialists. Among the teachers of special sciences or arts who were added to the Faculty during this period, and who have identified themselves with the peculiar work of the College, are: Mrs. Nellie S. Kedzie, M. S., a graduate of the College, who took charge of the Department of Household Economy and Hygiene in the fall of 1882; Prof. W. A. Kellerman, Ph. D., who was elected to the chair of botany in the fall of 1883; Prof. David E. Lantz, M. S., who became teacher of mathematics and surveying in the fall of 1883; Prof. Oscar E. Olin, who was called to the chair of English language and literature in 1886; Prof. Alexander B. Brown, A. M., who was elected to take charge of the Music Department in the fall of 1886; Prof. Ozni P. Hood, B. S., who entered upon his work as superintendent of the shops and teacher of mechanics and engineering in 1887; Prof. Francis H. White, A. M., who became instructor of history and constitutional law in the fall of 1888; Prof. Charles C. Georgeson, M. S., who was called to the chair of agriculture in the winter of 1890; Prof. Ernest R. Nichols, A. M., who was made instructor in physics in the fall of 1890; Dr. Nelson S. Mayo, D. V. S., M. S., who was elected professor of physiology and veterinary science in the fall of 1890; Prof. Julius T. Willard, M. S., a graduate of the College, who became assistant professor of chemistry in 1891; Prof. Albert S. Hitchcock, M. S., who was called to the chair of botany in the fall of 1891; and Prof. Silas C. Mason, M. S., a graduate of the College, who was made assistant professor of horticulture in the summer of 1892.

The annual reports of the several State and national societies for the advancement of pure and applied science give witness to

the extended work carried on in the studies and laboratories of the Faculty of this period. Prof. W. A. Kellerman, who left the institution in the fall of 1891 to accept a call by the State University of Ohio, with promise of increased salary, published several books on his special branches while here as "Elements of Botany," a text-book for schools, treating histology, vegetable and economic botany, and organography. At the time of its publication, in 1884, a critic in *Science* said: "It comes nearer to filling a

The Faculty in 1888.

serious gap in botanical literature than any other thus far published." Also, "Plant Analysis, or Key to the Dichotomal Plan for Identifying Plants East of the Mississippi." Also, "Analytical Flora of Kansas," and a "Kansas School Botany." The general use of these works attests their value. The professor also prepared numerous papers in various State reports, the two of special importance to Kansas being "The Kansas Forest Trees Identified by Leaves and Fruit"—the first work of the kind ever published in the United States—and the "Native Grasses of Kansas." Prof. Geo. H. Failyer published a hand-book for students of analytical chemistry; Prof. Edwin A. Popenoe prepared several students' hand-books on entomology; Prof. A. B. Brown published a text-book on musical theory, "Brown's Chromatic Musical Charts;" Prof. J. D. Walters published a series of text-books on free-hand drawing and designing, and Prof. Julius T. Willard, a text-book on organic chemistry.

X.

THE COLLEGE-AID BILL—NEW EQUIPMENTS.

ON THE 25th day of March, 1890, Senator Justin A. Morrill, of Vermont, who in 1859 and 1862 had been the prime mover of the agricultural college land-grant bill, carried out his long-expressed intention of introducing a bill for "the more complete endowment and support of colleges for the advancement of scientific and industrial education, and other purposes." The bill was at once referred to the committee on education and labor of the Senate of the United States. As soon as the welcome news reached the executive committee of the Association of American Agricultural Colleges and Experiment Stations, a meeting was called, in order to take active measures to urge its passage in the Fifty-first Congress. A sub-committee was appointed, consisting of President Alvord, of the Maryland Agricultural College; President Lee, of the Mississippi Agricultural College; President Scott, of the Ohio State University; and President Smart, of Purdue University, to act on behalf of the association. This committee conferred with the Senate committee, and, after several conferences, succeeded in changing the original bill, which included provisions for aiding a large number of schools, and which in that form could never have become a law, to nearly its ultimate language.

Yielding considerably to their opinion, although the common-school feature was a cherished part of his original plan, Senator Morrill prepared a new bill, and introduced it April 30, 1890, as a substitute for the former measure. On May 17 it was favorably reported, with amendments, from the Senate committee, and accompanied by a report which declared that the land-grant institutions had done as well as could have been expected, and emphasized that—

> Perhaps contrary to the general impression, the proper equipment of one of these colleges is far more expensive, being at least ten times greater than that of an ordinary classical institution. . . . A college of agriculture and the mechanic arts is not a cheap affair. . . . It will and ought to cost something.

After being discussed on three consecutive days, and amended with regard to the clause referring to the equitable division of the appropriation in States where separate colleges for white and colored students had been established, the bill passed the Senate, on June 23, by a practically unanimous vote.

On the following day it was read in the House of Representatives and referred to the committee on education, the committee returning it on July 24, without amendment and accompanied by a report. On the 19th of August, under a special order, the bill was considered and passed, without a roll-call, by a vote of 135 to 39. One amendment, generally agreed upon and made known in advance, was adopted by the House, and in this the Senate concurred on the following day. The Kansas State Agricultural College may well pride itself with the fact that this amendment, limiting the appropriation "only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic science, with special reference to their applications in the industries of life," was unnecessary, since no instruction had been given in its class rooms for years that did not conform with this definition of the meaning of the original Morrill act.

The report of the House committee on education on the condition of the land-grant colleges, and the general status and educational needs of the industrial classes, contained the following interesting paragraphs:

It is no exaggeration to say that the institutions have more than justified the anticipation entertained by their best friends. This is not to assert that they have in all cases been perfectly successful; but they have steadily adjusted themselves more and more to the requirements of the new situation. They have gathered about themselves a large body of men whose training and experience have prepared them to give thorough and advanced instruction in modern science and its applications. They have collected laboratories, workshops, farms, and apparatus for illustration, experiment, and research. They have so far commended themselves to the people of their several states that large sums of money have been given to provide buildings and equipments suited to their needs, and they have turned out a body of men who, as teachers, investigators, and leaders of industry, rank well up with the same class of men anywhere in the world. According to recent reports of the United States Bureau of Education, they have now more than 10,000 students under instruction, and their graduates are to be found taking high rank in every department of industry. In many states they have come to be recognized as leaders in scientific education, and have done much to create and mold that public sentiment which is now everywhere demanding that the education given in schools of every grade shall, without lowering its aim, prepare more directly for the actual pursuits of industry. Nor is it too much to say that their influence and example have contributed greatly to bring about the enlargement and reorganization of scientific education in the older institutions of the country, thus bringing them more closely into harmony with the spirit and purpose of the age.

One of the most serious drawbacks to the success of these colleges has been the fact that the grant of 1862 was based upon representative population. The result was that a small state or a new one received only a small

grant, thus giving the least aid in places where it was most needed; and the grant was still further diminished by reason of so large a quantity of scrip being thrown upon the market at one time, thus reducing the average price to less than 60 cents per acre. The present bill wisely proposes to rectify this inequality by giving an equal amount to each state.

Notwithstanding the prosperous condition of many of these institutions, the fact remains that almost every one of them is crippled for want of adequate funds. The meagerness of the original endowment has been supplemented, in many cases, as we have seen, by the action of the states, but in the great majority of cases the needs of the institutions have far outrun even the most liberal of such appropriations. The fact is recognized, in a general way, that the cost of maintaining scientific education is far greater than that of maintaining literary or classical education. More numerous and larger buildings, more apparatus of every kind, and a larger teaching force, are constantly required, and the loss of apparatus and equipment by wear and tear is immeasurably greater. Moreover, the field of science and the methods of applying it in practical life have so greatly enlarged within the last twenty-five years that none but the wealthiest institutions in the country have found themselves able even passably to meet the requirements of the time. The government of every leading country outside of the United States has recognized the necessity of providing on a large and generous scale for the establishment and maintenance of scientific instruction of every grade, from the primary to the highest, and it is everywhere regarded as one of the first duties of statesmanship to see that the citizens of the country are not left behind in the race of modern competition for lack of any resource that science can bring to their aid. The margin of profit in the competition of modern industries is so small and so closely calculated that *the best instructed people will be the winning people.* It seems not too much to hope that the government of the United States will, to the slight amount provided for in the pending bill, strengthen the foundations it has already so wisely laid, and thus place itself abreast of the leading thought of the age.

The act was approved by President Harrison, August 30, 1890, and reads as follows:

AN ACT to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of Agriculture and the mechanic arts established under the provisions of an act of Congress approved July 2, 1862.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be, and hereby is, annually appropriated, out of any money in the treasury not otherwise appropriated, arising from the sales of public lands, to be paid as hereinafter provided, to each state and territory, for the more complete endowment and maintenance of colleges for the benefit of agriculture and the mechanic arts now established, or which may be hereafter established, in accordance with an act of Congress approved July 2, 1862, the sum of $15,000 for the year ending June 30, 1890, and an annual increase of the amount of such appropriation thereafter for ten years by an additional sum of $1000 over the preceding year, and the annual amount to be paid thereafter to each state and territory shall be $25,000, to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic science, with especial reference to their applications in the industries of life, and to the facilities for such

instruction: *Provided*, That no money shall be paid out under this act to any state or territory for the support or maintenance of a college where a distinction of race or color is made in the admission of students, but the establishment and maintenance of such colleges separately for white and colored students shall be held to be a compliance with the provisions of this act if the funds received in such state or territory be equitably divided as hereinafter set forth: *Provided*, That in any state in which there has been one college established in pursuance of the act of July 2, 1862, and also in which an educational institution of like character has been established, or may be hereafter established, and is now aided by such state from its own revenue, for the education of colored students in agriculture and the mechanic arts, however named or styled, or whether or not it has received money heretofore under the act to which this act is an amendment, the legislature of such state may propose and report to the secretary of the interior a just and equitable division of the fund to be received under this act between one college for white students and one institution for colored students, established as aforesaid, which shall be divided into parts and paid accordingly, and thereupon such institution for colored students shall be entitled to the benefits of this act and subject to its provisions, as much as it would have been if it had been included under the act of 1862, and the fulfillment of the foregoing provisions shall be taken as a compliance with the provision in reference to separate colleges for white and colored students.

SEC. 2. That the sum hereby appropriated to the states and territories for the further endowment and support of colleges shall be annually paid on or before the 31st day of July of each year by the secretary of the treasury, upon the warrant of the secretary of the interior, out of the treasury of the United States, to the state or territorial treasurer, or to such officer as shall be designated by the laws of such state or territory to receive the same, who shall, upon the order of the trustees of the college or institution for colored students, immediately pay over said sums to the treasurers of the respective colleges or other institutions entitled to receive the same, and such treasurers shall be required to report to the secretary of agriculture and to the secretary of the interior on or before the 1st day of September of each year a detailed statement of the amount so received, and of its disbursement. The grants of moneys authorized by this act are made subject to the legislative assent of the several states and territories to the purpose of said grants: *Provided*, That payments of such installments of the appropriation herein made as shall become due to any state before the adjournment of the regular session of legislature meeting next after the passage of this act shall be made upon the assent of the governor thereof, duly certified to the secretary of the treasury.

SEC. 3. That if any portion of the moneys received by the designated officer of the state or territory for the further and more complete endowment, support and maintenance of colleges or of institutions for colored students, as provided in this act, shall by any action or contingency be diminished or lost, or be misapplied, it shall be replaced by the state or territory to which it belongs, and until so replaced no subsequent appropriation shall be apportioned or paid to such state or territory; no portion of said moneys shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation or repair of any building or buildings. An annual report by the president of each of said colleges shall be made to the

secretary of agriculture, as well as to the secretary of the interior, regarding the condition and progress of each college, including statistical information in relation to its receipts and expenditures, its library, the number of its students and professors, and also as to any improvements and experiments made under the direction of any experiment stations attached to said colleges, with their costs and results, and such other industrial and economical statistics as may be regarded as useful, one copy of which shall be transmitted by mail free to all other colleges further endowed under this act.

SEC. 4. That on or before the first day of July of each year, after the passage of this act, the secretary of the interior shall ascertain and certify to the secretary of the treasury as to each state and territory, whether it is entitled to receive its share of the annual appropriation for colleges, or of institutions for colored students, under this act, and the amount which thereupon each is entitled, respectively, to receive. If the secretary of the interior shall withhold a certificate from any state or territory of its appropriation, the facts and reasons therefor shall be reported to the president, and the amount involved shall be kept separate in the treasury until the close of the next Congress, in order that the state or territory may, if it should so desire, appeal to Congress from the determination of the secretary of the interior. If the next Congress shall not direct such sum to be paid, it shall be covered into the treasury. And the secretary of the interior is hereby charged with the proper administration of this law.

SEC. 5. That the secretary of the interior shall annually report to Congress the disbursements which have been made in all the states and territories, and also whether the appropriation of any state or territory has been withheld, and if so, the reasons therefor.

SEC. 6. Congress may at any time amend, suspend or repeal any or all of the provisions of this act.

The passage of this bill, which increased the revenue of the College by from $15,000 to $25,000 per year, came just in time. The rate of interest, and with this the income from the endowment fund, had been shrinking for about five years, while the expenses had been constantly growing. In the spring of 1890 it seemed a question of only a short time when the institution would have to do one or the other of three disagreeable things, viz.: Limit its usefulness in some direction, or collect a tuition fee from the students, or ask the State legislature for an annual appropriation to meet a part of the current expenses. In the report for 1889-'90, the Board of Regents had said: "By strict economy, even by postponing provisions of urgent necessity, the expenses of the past two years have been kept within the limits of the income." Yet, there had been a small balance against the College for several years, partly due to the delinquency of some of the interest-paying parties, but partly also because the College was unable to keep a sufficient working fund on hand between the dates that are named in the bonds for paying the semi-annual interest. In 1890, however, the College received $15,000 for the current year, and

$16,000 for the year 1891, so that the deficit in the treasury could be covered, the most necessary equipments could be procured, and some additional teaching force could be engaged.

NEW EQUIPMENTS.

Among the means which this increase of the revenues of the College procured, may be mentioned the equipment of the new machine-shops and foundry, and the renewing of the hand tools of the carpenter shop.

The legislature of 1887 had added wood-working machinery to the amount of $1000 to the simple hand tools that had been bought from time to time since the reorganization of the College in 1874. This appropriation was sufficient to procure, in addition to the 10-horse-power engine and 20-horse-power boiler already in the building, a fine double-column circular saw, a 24-inch planer, a single-spindle friezer, a 34-inch band saw, four lathes, and numerous attachments. During 1890 the hand tools were increased to 220 complete sets, placed in separate locked drawers under the work benches, so that now each student had a good kit of tools entirely in his charge. The equipment of the new machine-shop and foundry cost about $4000. It consisted of sixteen forges, with a 30-inch exhaust fan, smoke connections, anvils and hand tools, a No. 0 Collian cupola and blower, with ladles, hand ladles, core oven, flasks, etc., for an iron foundry, a brass furnace and twelve moulding benches, with flasks and hand tools for small brass work. A small upright engine ran the following tools: A 24"x24"x6' planer, four 14"x6' engine lathes, a 12"x5' brass lathe, a speed lathe, a 24" drill press, a sensitive drill press, a pipe cutter, emery wheels, and grindstone. Fifteen vices with thirty locked drawers, each containing a complete kit of hand tools, were provided for hand work.

Of other equipments bought from this source may be named a fine collection of samples of minerals, for the use of the classes in chemistry, mineralogy, and geology, a set of adjustable drawing tables for the Industrial Art Department, and a papier-maché horse for the Department of Veterinary Science. The mineralogical collection cost about $1100 and was one of the most complete in the country until 1899, when it was destroyed by the burning of the old laboratory building.

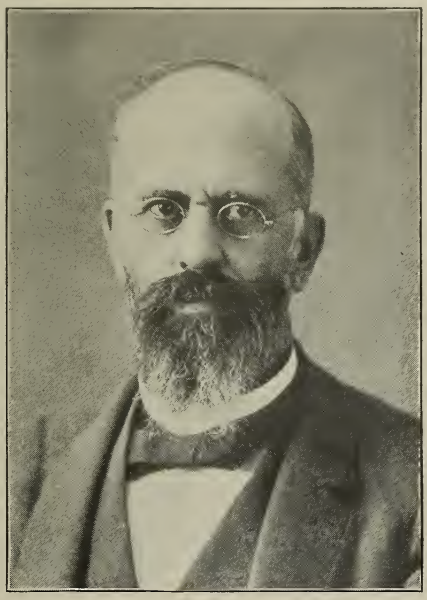
XI.

PRESIDENT FAIRCHILD AND HIS COLLABORATORS—JOHN A. HESSIN—PROF. C. C. GEORGESON—PROF. W. A. KELLERMAN—PROF. D. E. LANTZ—MRS. NELLIE S. KEDZIE-JONES—PROF. O. E. OLIN—PROF. A. S. HITCHCOCK—PROF. J. T. WILLARD.

PRESIDENT George Thompson Fairchild, A.M., D.D., was born in Brownhelm, Lorain county, Ohio, October 6, 1838. His father was a farmer and teacher. There were four sons and four daughters, of whom George T. was the youngest. He was educated at Oberlin College, graduated in the classical course in 1862, and in the department of theology in 1865, and, though never a pastor, was ordained to the ministry of the Congregational church. In the same year he was elected instructor in the Michigan Agricultural College, and the next year was made professor of English literature, which chair he filled until his call to the presidency of the Kansas State Agricultural College, where he entered upon his work December 1, 1879. During a year's absence of the president of the Michigan college, Professor Fairchild had been acting president by choice of the board of regents. President Fairchild was a prominent member of the National Educational Association, and has contributed several valuable papers to the published proceedings of that body. At the session at Saratoga, N. Y., in 1885, he was made a member of the National Council of Education and appointed to the committee of technological education. At the meeting in Chicago, in 1877, he was made president of the industrial section, and in the following year, at San Francisco, he was reëlected to the same position. In 1886 the Faculty of the Kansas State Agricultural College, in order to show him their appreciation of his work, and to give him a fitting token of their esteem, presented him with a life directorship in the National Educational Association. In the American Association of Agricultural Colleges he twice held the office of vice-president. One of his brothers, James H. Fairchild, was for many years president of Oberlin College, and another brother, E. H. Fairchild, president of Berea College, Kentucky.

President Fairchild's views with regard to the "new education" were not as radical as those of Anderson had been. With President Anderson, the Agricultural College had been largely a station for pedagogical experiments, conducted with a view of producing proofs of his theories on the value of manual training. With President Fairchild, the College became a model school for

the education of young men and women who were to go back to the farm or workshop, not only to perform manual labor, but to live complete lives and to develop and honor their calling. In an article on "Our Agricultural Colleges," written for the *Chicago Farmers' Review*, and subsequently published by the Michigan



Pres. George T. Fairchild.

State Board of Agriculture in their annual report, President Fairchild, then professor at the Michigan State Agricultural College, presented his ideal in such a characteristic manner that there could be no doubt in the minds of those who called him to Kansas as to his aims and methods.

President Fairchild lost his position in the political melee that followed the victory of the Populist party in 1896. Once before, in 1893 and 1894, the Board of Regents had been composed of

Populists, but the aged educator, by his dignified demeanor and through the efforts of his personal friends (Regent Ed. Secrest and others) in the victorious camp, succeeded in maintaining his moorings. But when the Populists carried the State a second time many conditions had changed. Fairchild was accused of being an offensive Republican partisan and a non-progressive educator. Articles appeared in several leading papers of his own party criticising his management of the College. The newly organized Board of Regents took him to task for an existing deficit of several thousand dollars, and, seeing the clouds thicken in all directions, Fairchild resigned. (See Chapter XII.)

President Fairchild was a born disciplinarian, not only of students, but of all who came in contact with him. His will was law to his collaborators, though he ruled with easy grace and perfect dignity. He was not a scientist in any sense of the term, but his studies and work in English literature had given him the ability of polished and careful expression, and this, connected with natural ability, a graceful stature, a bright eye, and a natural tact, made him a power. He was a good logician and a man of constant growth. He was systematic—a man of order and correct habits—a master of all details of his work.

Educational ideals are subject to the general laws of evolution. President Fairchild was the product of a school of pedagogics that passed its zenith several decades ago. He was a strong believer in popular education, and had no use for early specializing, substitute studies, electives, and short courses. He often expressed himself that the farmers' institute could do but little good beyond the inspiration to thinking and reasoning which it evidently produced. He believed that the thoroughly educated man or woman could easily acquire technical knowledge of any kind, and he strenuously opposed technical training as a substitute for general training. The question of dividing the course of study into special courses or schools—a school of agriculture, a school of domestic science, a school of engineering, etc.—was often discussed by the Faculty, but found little favor with him. His ideal was the harmoniously developed man or woman.

The incidents connected with the resignation from the executive chair and the departure from Manhattan are told in another chapter of this volume. Among the friends and patrons of the College there were many who did not coincide with him in some of his educational maxims. When in the spring of 1897 the fusion party came into power, the newly appointed Board of Regents disagreed with him, formulated a code of "fundamental

principles" to which he would not subscribe, and forced his resignation. He departed from the College where he had worked and taught feeling to his end that he had been misunderstood and wronged.

The last four years of his life were comparatively uneventful. After a long-needed rest with friends and relatives in the eastern states, during which he wrote a book on "Rural Wealth and Welfare" and a pamphlet on "Populism in a State Educational Institution," he accepted a call to the chair of English literature at Berea College, Kentucky. His children, of whom he had five—two daughters and three sons—were a constant source of happiness to him. The oldest of the sons became a Unitarian minister, the second a medical specialist, and the third is one of the most widely known experts of the U. S. Department of Agriculture. Doctor Fairchild died after a lingering illness, at Columbus, Ohio, on Friday, March 15, 1901, and was buried in Berea, near the resting place of his brother, E. H. Fairchild.

JOHN A. HESSIN.

Hon. John A. Hessin, Regent of the Agricultural College from 1886 to 1892, was born at Lisbon, Columbiana county, Ohio, sixty-three years ago. In 1869 he completed the classical course of Washington and Jefferson College at Washington, Penn. He served during the Civil War two years in Co. B, 51st Ohio, under "Pap" Thomas, and took part in many severe engagements. In 1870 he came to Manhattan and formed a law partnership with the late Judge Geo. S. Green, which continued twenty years. While Mr. Hessin has never been a politician, he has been called upon to fill various offices. He served two terms as city attorney and two terms as county attorney. During six years as Regent of the K. S. A. C. he had much to do with shaping its policies. He served as State senator from 1896 to 1900. It was here that his fluent speech, disciplined intellect, aggressive spirit, unswerving integrity and independence of thought and action won him not only the leadership of his Republican colleagues, but the admiration of the Populists, who were largely in the majority. He was always armed for contest, and his honesty and ability were soon recognized. He is a leader among men because he is full of resource, convincing in argument, a man of convictions and beyond suspicion of graft. He despises shams, and is thoroughly in sympathy with sound progress. As an attorney-at-law, Mr. Hessin has an excellent reputation in every part of the State.

PROF. C. C. GEORGESON.

Prof. Chas. C. Georgeson, M. Sc., of the chair of agriculture, came to this country from Denmark when a youth. He began his work as a gardener and general horticulturist, passing his apprenticeship in this line in his native land. A year after he landed he entered the Michigan Agricultural College, from which he graduated in 1878. He was at once offered the position as assistant editor of the *Rural New Yorker*, published in New York city. That position he held for two years. In the fall of 1880 he was chosen professor of agriculture and horticulture in the Texas Agricultural College. This was followed in 1885 by an offer from the Japanese government to fill a similar chair in the Imperial college of agriculture in Tokio, which he accepted. He remained in Japan nearly four years and returned to the United States in the fall of 1889. Shortly after his return he was invited to take the position of professor of agriculture in the Kansas State Agricultural College. He accepted the offer in January, 1890, and remained here nearly eight years, till September, 1897.

Professor Georgeson's work in Kansas is well known to the farmers of the State. The experiment stations maintained by the national government had just been fairly started when he came to Kansas, and his work in that line at Manhattan may be traced through the thirty bulletins which he wrote while here. Experiments in cropping, especially methods of culture best adapted to Kansas conditions, and experiments in steer feeding, were the main features of his work. The soy-bean was introduced into this country for the first time by Mr. Georgeson at the Kansas station in 1890. He sent to Japan for the seeds and grew them that year at the College. The scientist found it to be a valuable drouth-resisting plant and grew it extensively and distributed the seed widely gratis to the farmers of Kansas. He also introduced the growing of this bean as a second crop after wheat, and plowed it under for green manure if it failed to ripen. Professor Georgeson proved by his feeding experiments that the meal of the soy-bean was more valuable than linseed oil-meal for both steers and hogs, and that the farmers could raise them at a fraction of the price per ton that the oil-meal costs.

In January, 1893, Secretary of Agriculture Rusk sent Professor Georgeson to Europe to investigate the dairy industry in Denmark. There was at that time a great revival in the dairy industry in the United States, and Denmark stood at the head of the list of dairy countries. He considered it important to obtain authentic detailed data in regard to the methods practiced by the

Danes, and especially the reasons for the superiority of their butter, which always sold several points higher in the English markets than butter from other countries. The results of the professor's investigations were published by Secretary Morton in a report entitled "The Dairy Industry of Denmark."

When the Populists assumed control of the College in 1897 Professor Georgeson resigned and took the civil service examination for an assistantship in the United States Department of Agriculture. He was first appointed assistant in the division of agrostology and was sent by the department to the Panhandle of Texas to investigate the pasture conditions in that locality. In March, 1898, Mr. Georgeson was appointed special agent in charge of the Alaska agricultural investigations, and started for the North, where he has since remained. During a whole decade he has worked in that semi-arctic region, testing its possibilities for raising grasses, vegetables, and grains. He has also made extensive experiments with the islandic reindeer, the northern sheep, and milch cows. His reports form one of the most interesting parts of the annual literature of the U. S. Agricultural Department.

PROF. W. A. KELLERMAN.

Prof. William Ashford Kellerman, Ph. D., was born May 1, 1850, in Central, Ohio, his early life being spent upon his father's farm. He prepared for college in Fairfield Academy. In 1871 he entered Cornell University, and after four years graduated with the degree of B. Sc. He then became professor of natural science in the Wisconsin State Normal School. After five years continuous service in that position he, accompanied by his wife, who was also a student of botany, went to Europe and studied biology for two years in Germany and Switzerland, and received the degree of Ph. D. from the university of Zurich. In 1881 he returned to this country and was called to the Kentucky State Agricultural and Mechanical College, where he remained two years. From here he came to the Kansas State Agricultural College as professor of botany, remaining till 1893, when he accepted a call by the State University of Ohio.

In 1885 Doctor Kellerman was made botanist of the Kansas State Board of Agriculture, and in 1888 of the Kansas Experiment Station. In connection with his work here he published several text-books as, "Elements of Botany," "Plant Analysis," "Analytical Flora of Kansas," and a large number of pamphlets and scientific contributions. In 1885 he established the *Journal of*

Mycology, which he edited till 1889, when it became a government publication.

The doctor was a prolific writer and an untiring investigator. He lost his life in the spring of 1908 in Venezuela, Central America, where he had gone from Ohio for several successive winters as director of botanical excursions. He contracted a malerial fever and died in the depths of the tropical forest, a martyr in the cause of his beloved science.

PROF. D. E. LANTZ.

Prof. David Ernest Lantz, M. Sc., was born in Juniata county, Pennsylvania, in 1850. He was educated in the Juniata county Normal School, and in the State Normal School at Bloomsburg, Penn., graduating in 1875, and received the degree of Master of Science, after examination, in June, 1885. From 1870 to 1883 he was a teacher in public schools. He holds life diplomas in Pennsylvania and Kansas; in fact, he was the first man in Kansas who obtained a life diploma. For two years he was principal of public schools at Mifflintown, Penn., and of the Juniata county Normal School, and for five years he was superintendent of schools at Manhattan, Kan.

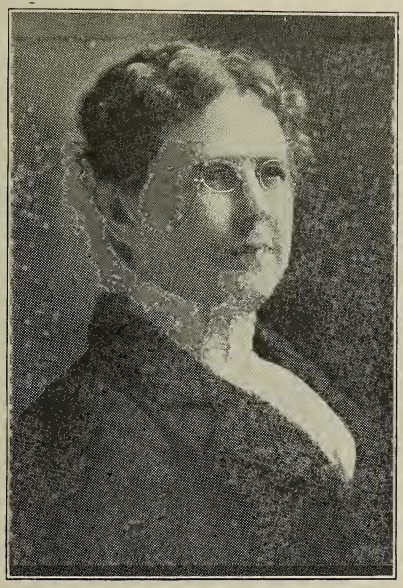
He was elected to the chair of mathematics at the Kansas State Agricultural College in 1881, at the time of the resignation of Prof. L. M. Ward, and held this position for sixteen years, till 1897, when he lost it in the Populist reorganization. During a good part of this time he was also librarian of the College. In 1882 he was nominated by acclamation in the Democratic convention for the office of State superintendent of public instruction, and ran considerably ahead of his ticket.

After his resignation in 1897 he took up work for the Agricultural Department of the government. In 1899 he returned to the College, having been elected by the Board of Regents expert of the State poison laboratory for the extermination of the prairie-dog and the pocket-gopher, and remained in this position for about four years. His poison mixture was highly effective in eradicating the pests and was prepared and sold to the farmers of the State by thousands of quarts. He then accepted the position of expert on mammals in the Agricultural Department at Washington, D. C., a position which he still holds. While at Washington the professor has published several valuable pamphlets on obnoxious mammals, among which may be named a very complete life history of "Field Rodents" and a similar treatise on the "Coyote." Professor Lantz is an honorary life member of the Kansas State Horticultural

Society, a member of the Kansas Academy of Science, an associate member of the American Ornithologists Union, and of several other societies devoted to the investigation of biological subjects.

MRS. NELLIE S. KEDZIE-JONES.

Prof. Nellie (Sawyer) Kedzie-Jones, M. Sc., was born in Madison, Me., August 2, 1858. Her education was begun in the village schools of her native state. In 1870 the Sawyer family moved to



Mrs. Nellie S. Kedzie-Jones.

Ottawa, Kan., where she attended a private school taught by Prof. and Mrs. M. L. Ward (See his biography in chapter VII). She then spent two years in the Kansas State Agricultural College, graduating with the class of 1876. After teaching a year at Milford, Geary county, Kansas, she was employed four years as one of the teachers in the graded schools of Ottawa.

In 1881 she married Robert F. Kedzie, professor of chemistry in the Mississippi Agricultural College, who, for a term or two while his brother, Wm. K. Kedzie, was on a leave of absence in Europe, had taught classes in Manhattan. The professor died at Starkville, Miss., after a brief illness, and Mrs. Kedzie, in 1882, accepted a call by the Kansas State Agricultural College to teach household economy. The next year the College gave her the de-

gree of M. Sc., and in 1887 made her professor of household economy and hygiene, which position she held till 1897, when she resigned because of the resignation of her friend and protector, Pres. Geo. T. Fairchild. From Manhattan she went to Peoria, Ill., where she accepted a similar position in the Bradley Polytechnic Institute, a filial of Chicago University, and taught there for about five years. In 1901 she was married to Prof. Howard M. Jones, of Berea College, Ky. They remained there till 1903, when he exchanged the professor's chair for the pulpit and accepted a call by the Congregational church of Kalamazoo, Mich., where they still reside.

Mrs. Kedzie-Jones was an energetic instructor, a natural disciplinarian, and a warm-hearted advisor. The young women of the College called her their College mother. She took hold of the Domestic Science Department when the institution possessed but few means, and she produced wonderful results in spite of the lamentable lack of suitable quarters and apparatus. Hundreds of young housekeepers and scores of manual training teachers are indebted to her for their training in the work and graces of true womanhood.

PROF. O. E. OLIN.

Prof. Oscar E. Olin, M. A., was born at Earlville, Ohio, on the third of December, 1851. His father was a prosperous farmer of the western reserve. The family, leaving the ancestral home, went west in 1852. The professor began his education in the schools of Iowa and California, and, returning, completed his school days in the public school of his birthplace. He began teaching in Michigan in 1870. In 1871 he came to Kansas. He first taught a country school in Osage county, was then principal of the Baldwin city schools, afterwards principal of the Augusta school in Butler county, and superintendent of schools in El Dorado. From the last position he was, in 1885, elected to the professorship of history and English in the State Agricultural College, where he remained till 1898. He resigned to accept a call from Buchtel College, Akron, Ohio, where he became professor of economics and history—a position which he still holds.

Professor Olin left the Agricultural College with an enviable record as a successful teacher. He was a hard worker in the class room and a warm friend and counselor of his pupils. He had but few educational advantages when he was young, but he was a pusher—a man who knew how to "dig and grow." In recognition of his success as the head of the Department of English, the Kansas State Agricultural College in 1897 bestowed upon him the

degree of Master of Arts. His older brother has been the head of the didactics department of the Kansas State University ever since this course was organized at Lawrence, and another brother is a graduate of this College and a professor in the Colorado State Agricultural College.

PROF. A. S. HITCHCOCK.

Prof. Albert S. Hitchcock, M. Sc., was born at Owosso, Mich., September 4, 1865. His father, whose name was Peter Hughes, died when Albert was less than two years old, and he was adopted by his stepfather by name of J. S. Hitchcock. When the boy was about five years old the family moved to Kansas, living for awhile in Ottawa and Atchison. Later they moved to Lincoln, Nebr. At Atchison he entered the high school, but he was a frail child and it was decided that he stay out of school a while. He spent a year on a farm near Lincoln where, as he often said, he got his first lessons in agriculture. Another year was spent in Netawaka, Jackson county, where he went to school in winter. For years he had planned to go to an agricultural college and to become a farmer. With this in view he finally entered the Iowa State Agricultural College, at Ames, Ia., and graduated from the agricultural course in 1884, with the degree of B. S. A. In addition to the regular course, he took several extra studies—one year of botany, one term of commercial law, and two years of special chemistry. He was much interested in chemistry, and during his senior year he became laboratory assistant. In 1885 he took a postgraduate course in chemistry and some work in advanced physics. He was also assistant in chemistry, but during all his course he had been very fond of botany, and so he took a second year of postgraduate work—chiefly in botany, getting the degree of M. Sc. in 1886.

In that year he was appointed instructor in chemistry in the Iowa State University, at Iowa City, where he taught for three years. In September, 1889, he became first assistant at the University Botanical Garden, at St. Louis, where he remained till his call to Manhattan, in 1892. In the winter of 1890-'91 the regents of the university sent him on a trip to the Bahamas and Jamaica to study the flora of those southern islands.

Professor Hitchcock remained in Manhattan, as the head of the Department of Botany, for nine years, and is remembered by his colleagues as an enthusiastic and untiring student of plant life and a very effective teacher in the class room and the laboratory. While here he was botanist to the State Board of Agriculture, the

State Horticultural Society, and the State Experiment Station His departure for Washington, D. C., where he entered the Bureau of Plant Industry of the Agricultural Department as expert in taxonomic work, was a great loss to the Kansas State Agricultural College.

PROF. J. T. WILLARD.

Prof. Julius T. Willard, M. Sc., D. Sc., was born April 9, 1862, near Wabaunsee, Kan. His mother, born in Ohio, was a daughter of emigrants from Germany, who finally located near Alma, Kan., in 1855. His father was of some of the oldest of New England stock, coming to Kansas in 1856 with the colony led by C. B. Lines, widely known at that time as Beecher's Rifle Company, of whom Whittier wrote the well-known poem beginning:

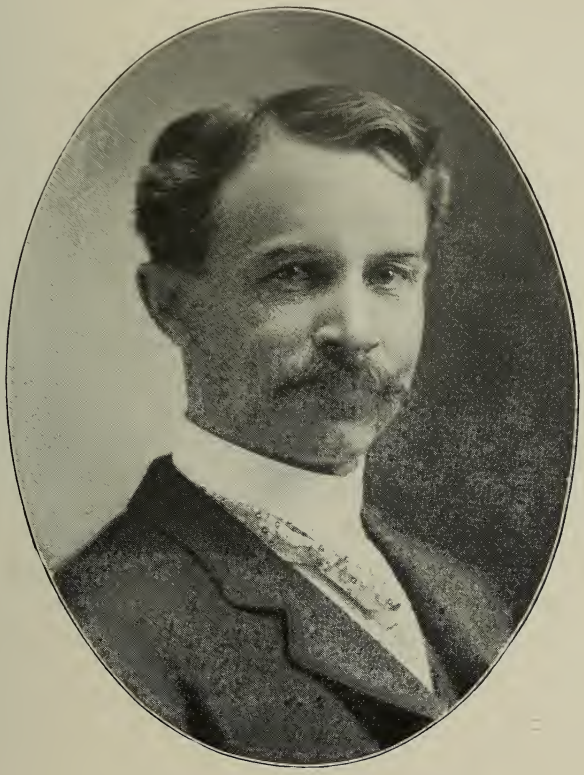
> We cross the prairies, as of old our fathers crossed the sea,
> To make the West, as they the East, the homestead of the free.

The boy was brought up on the farm, but had the advantage of attending the best school in the county at that time. In November, 1879, he entered the State Agricultural College, and was graduated in 1883. He extended his course one year in order to take special work in chemistry. During this time he was a student assistant in the Chemical Department and became familiar with its every detail.

Upon graduation he was made assistant in chemistry. Examination of the College catalogues shows that he was the first to be there recorded as student assistant, assistant, assistant professor, or associate professor. In 1887-'88 he studied chemistry at Johns Hopkins University. While there he was elected to the position of assistant chemist of the newly organized Experiment Station here. In 1897 he was made professor of applied chemistry and chemist of the Experiment Station; in 1900, director of the Experiment Station, and in 1901, professor of chemistry. In 1886, in connection with Prof. Geo. H. Failyer, he compiled a laboratory manual for the use of the classes in analytical chemistry, and in 1894 he published "The Organic Compounds of Everyday Life," as a textbook for his classes in organic chemistry.

In 1887 he received the degree of Master of Science from this College and in 1908 he was given the degree of Doctor of Science. In 1906 he was relieved of the directorship of the Experiment Station in order that it might have added responsibilities attached to it which would require the entire time of the director, but in 1908, being vice-director, he was again drafted to take charge of this work for half a year till another party could be found to relieve him.

Some of the earliest Experiment Station work with which Professor Willard was connected was upon sorghum, for which at that time great hopes were entertained as a sugar-producing plant. Before the establishment of the Experiment Station it had occurred to him that it might be possible to improve the sorghum



Prof. J. T. Willard.

plant in respect to its sugar-content by planting the seeds from stalks which by separate analysis were found to be richer in sugar than their fellows. He conducted a little investigation of his own for two years before he left for study at the Johns Hopkins University. In this he showed that there were material differences among individual stalks in respect to sugar-content and had some indication that improvement was possible by seed selection based on analytical results. These observations came to the notice of the Department of Agriculture and the idea was taken up by the Bureau of Chemistry and exploited in Kansas by it for

a number of years. In the meantime the Experiment Station had been established here, and it conducted similar experiments. These experiments were continued six or eight years, and amply demonstrated the possibility of improving this plant by the means indicated. It was not, however, found commercially practicable to manufacture sugar from sorghum, and hence thus far technology has not profited much by the experiment. This work is described in bulletins Nos. 5, 16, 25, 36, and 43. The account of his first experiments was published in the Transactions of the Kansas Academy of Science for 1886. He was also interested in work upon sugar beets, extending over several years. This is recorded in some of the bulletins named above and also in bulletins Nos. 78, 83, 94, and 103. Together with other members of the staff, he conducted experiments in soil moisture, in the planning and execution of which he had an important part, the later ones being altogether in his charge. These experiments investigate the effects of different kinds of tillage upon the conservation of soil moisture. Exact trials were made touching the influence of chemical fertilizers upon the loss of soil moisture both in pots and in carefully prepared outdoor plots.

In connection with others, but chiefly at his suggestion and through his persistency, experiments were begun and continued for a series of years looking toward the improvement of the protein-content of Indian corn by seed selection based on analysis of individual ears. The results demonstrated the feasibility of this, and some specimens of corn of extraordinarily high protein-content were produced. These experiments are described in bulletin No. 107. Bulletin No. 103 gives an account of a number of digestion experiments with Kansas feeds. These were conducted under his direction and were in part upon feeds which had not been subjected to such experiments previously.

The bulletin in which Doctor Willard takes the most pride is No. 115, in which he describes a method which he discovered for exactly calculating a ration of certain specified characteristics. Up to that time it had been necessary to make a guess at the proportions in which the several constituents should be taken, make calculations based on that guess, and then make additional guesses and calculations for nearer approximations to the desired conditions. This bulletin, now practically out of print, has been in constant demand by students of various agricultural colleges since it was issued. Previous to its appearance several writers had declared that such a calculation was a mathematical impossibility.

Other bulletins by the doctor have treated of fertilizers and feeding-stuffs. He has now in hand a large amount of unpublished matter on experiments that have been under way for several years, on milling tests of wheat, baking tests of flour, and additional experiments in respect to the digestibility and nutritive value of prairie hay and alfalfa.

Doctor Willard is a life member of the Kansas Academy of Science, a fellow of the American Association for the Advancement of Science, and a member of the American Chemical Society and of several other scientific societies. He is ex-officio chemist of the State Board of Agriculture and the State Board of Health, and has done a large amount of highly responsible chemical work in both capacities. In the summer of 1906 Doctor Willard visited central Europe in behalf of the Experiment Station to study the methods of those countries with regard to laboratory and field experiments.

The professor is an untiring worker in the laboratory, a stern disciplinarian in the class room, and a valuable counselor in the business meetings of the Faculty. No one of the teachers of the College has contributed more toward a logical development of its courses of study and no one has done more valuable experimental work for the agricultural interests of the State than Doctor Willard.

FACULTY ROSTER IN 1897.

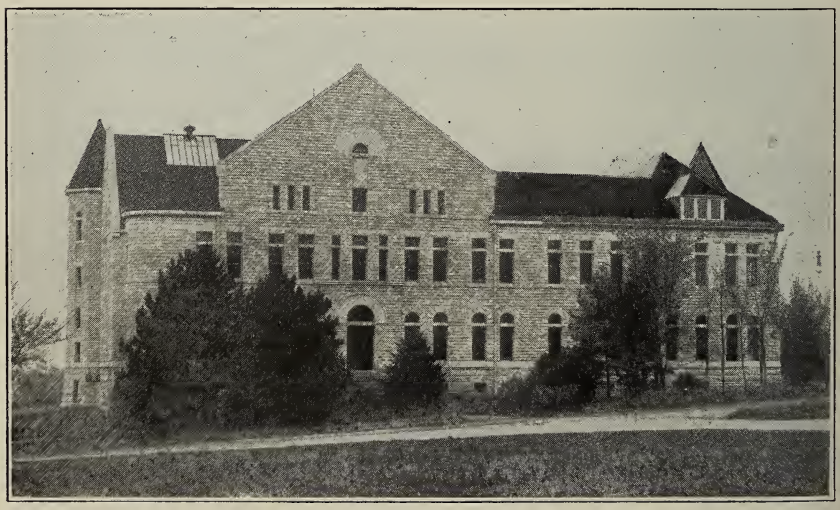
At the time of Doctor Fairchild's resignation in the spring of 1897 the board of instruction of the College was composed of nineteen professors, six instructors, eleven assistants and foremen, and five assistants in the Experiment Station. Their names and titles were as follows:

George T. Fairchild, LL. D., President..Professor of Logic and Philosophy
George H. Failyer, M. S.....Professor of Chemistry and Mineralogy
Edwin A. Popenoe, A. M.....Professor of Entomology and Zoölogy
David E. Lantz, M. S.....Professor of Mathematics
John D. Walters, M. S.....Professor of Industrial Art and Designing
Ira D. Graham, A. M., Secretary.....Instructor in Bookkeeping
Oscar E. Olin.....Professor of English Language and Literature
Mrs. Nellie S. Kedzie, M. S...Professor of Household Economy and Hygiene
Mrs. Elida E. Winchip.....Superintendent of Sewing
Ozni P. Hood, M. S.....
Professor of Mechanics and Engineering, Superintendent of Workshops
Alexander B. Brown, A. M.....Professor of Music
John S. C. Thompson.....Superintendent of Printing
Francis H. White, A. M.....Professor of History and Political Science
Charles C. Georgeson, M. S.....
.....Professor of Agriculture, Superintendent of Farm
Ernest R. Nichols, A. M.....Professor of Physics

Nelson S. Mayo, D. V. S., M. S.
.....Professor of Physiology and Veterinary Science
Julius T. Willard, M. S.....Associate Professor of Chemistry
Albert S. Hitchcock, M. S.....Professor of Botany
Silas C. Mason, M. S.
....Professor of Horticulture, Superintendent of Orchards and Gardens
Miss Josephine C. Harper.....Instructor in Mathematics
Miss Alice Rupp.....Instructor in English
Harry G. Cavenaugh.....
Captain 13th U. S. Infantry, Professor of Military Science and Tactics
Thomas E. Will, A. M.....Professor of Political Economy
Miss Julia R. Pearce, B. S.....Librarian
C. M. Breese, M. S.....Assistant in Chemistry
Grace M. Clark, B. S.....Stenographer in Executive Office
Lorena E. Clemons, B. S.....Clerk in Secretary's Office
Bertha Winchip, B. S.....Assistant in Sewing
Wm. Baxter.....Foreman of Greenhouses
W. L. House.....Foreman of Carpenter Shop
Enos Harrold.....Foreman of Iron Shops
Geo. Sexton.....Foreman of Farm
C. A. Gundaker.....Engineer
E. Emrick.....Janitor
Jacob Lund, M. S.....Fireman and Steam-fitter

Following are the names of the assistants in the Experiment Station:

F. A. Marlatt, B. S.....Entomology
F. C. Burtis, M. S.....Agriculture
D. H. Otis, B. S.....Agriculture
Geo. L. Clothier, B. S.....Botany
I. Jones, B. S.....Horticulture



Fairchild Hall.

XII.

A NEW POLITICAL PARTY—PRESIDENT FAIRCHILD ON POPULISM—THE LEGISLATURE OF 1897—THE ELECTION OF PRES. T. E. WILL—THE NEW BOARD—THE NEW FACULTY AND ITS WORK—GROWTH AND IMPROVEMENTS—THE SILLY BEQUEST—THE COLLEGE IN THE SPANISH WAR—SPECIAL SESSION OF THE LEGISLATURE—A REPUBLICAN BOARD.

IN ORDER to understand the stirring events of the Populist period at the College it is necessary to study the conditions that produced the Populist rising in Kansas and in the West. The movement started in the eighties and reached the high water mark in 1896. The necessity of borrowing capital at ruinous rates of interest, the extortive tariff on lumber, the high transportation rates and the gradual lowering of prices of farm products had produced a feeling among the farmers and their friends that the government was favoring eastern interests and that its policy was dictated by the trusts. They began to discuss these things and asked for relief, and when relief did not come they started a new party. It was to some extent a rebellion of the agricultural West against the domineering commercial and manufacturing East. Kansas in the early nineties was a purely agricultural state, and the tidal wave of protest reached a greater height on its prairies than anywhere else. The movement was accelerated by the Farmers' Alliance, a secret organization founded for the purpose of investigating social and financial conditions and compacting the various elements into a solid phalanx. When the Alliance became formidable it was joined by the ever present office seeker and the press. The demonetizing of silver added thousands of city voters to the new party, and for a while it looked as if it might capture the whole government.

The old parties resisted stubbornly. The railroads, telegraph companies, express companies, banks, manufacturers and merchants beheld the movement with apprehension and opposed it with all the means known to the American politician. The farmer, on the other hand, felt that he was perfectly honest in his endeavors. He felt that he was right and it hurt him to see the horny-handed son of toil carricatured as an ignorant plug—sockless and bewhiskered. The financial problems seemed simple to him and he was ready to solve them in a straightforward way by increasing the quantity of money. The majority did not want fiat paper, as was often charged—they were too honest for that—but planned to get the increase by retaining bimetalism, founding

postal savings banks, guaranteeing bank deposits, and issuing interest-bearing treasury notes. The farmer wanted the water squeezed out of the great railroad corporations; he wanted the tariff on lumber taken off; he wanted freight rates reduced and free passes abolished; he wanted the parcels post and the rural mail delivery; he wanted things and changes too numerous to mention. Many of his schemes have since that time become laws or were adopted in the platforms of other parties, but the Populist of fifteen or twenty years ago would not wait. He was sure that he had a grievance. He was abused, he believed, and when he met resistance he was prepared to fight with all the means at his command. He was tired and sick, and ready to try all the stimulants known to political materia medica.

PRESIDENT FAIRCHILD ON POPULISM.

Men of foresight who were in sympathy with the agitated masses warned them of the danger of forming a new party without a clean-cut political program, and advised them to insist on reforms within the old party organizations, but the leaders would not listen. President Fairchild himself, though he was no politician, frequently pointed out the Scilla and Charibtis of such a course. In a widely quoted article in the *Industrialist*, published in 1890, he characterized the growing Populist movement in the following interesting manner:

"We laugh at a sick man who follows everybody's prescription for rheumatism, even when he tries them in succession; but if he should attempt to swallow them all at once we should want to appoint a guardian for his little remaining strength and wit. A somewhat similar feeling is aroused by the recent agitation among farmers as to the cure of present financial stress and low prices. Doctors of all sorts of theories and of every form of practice are shouting out remedies, and the too-prevalent disposition seems to be, like that of the dazed rheumatic, to gobble them all at once in the hope that something may hit the sore spot.

"Is it reasonable to take such wholesale advice, whose conflicting remedies neutralize each other? Can general laxatives in the way of free silver and unlimited paper currency serve well with stringent tonics in restrictive business legislation, destruction of property in railroad stocks and commercial enterprises, and rejection of established channels of trade? To drop all figures of speech, it seems likely that the latest efforts to organize farmers for the full consideration of their needs and their rights and duties are to prove futile from the neutralizing elements of dissat-

isfaction brought together. No organization, however extensive, is worth its cost unless its aims are definite and clearly understood. Farmers need to settle upon the one line of action that is needed first and follow it; then the time will come to settle another line, and act accordingly."

THE LEGISLATURE OF 1897.

This was the condition of things when in the fall of 1896 the Republican party, who for a third of a century had been in almost undisputed control of the affairs of the State, had for the first time met a complete Waterloo, the Populists, aided by the Democrats and Silver Republicans, having captured both branches of the legislature, together with the executive council. The result was that the State institutions, of whose employees over ninety per cent were Republicans, were closely inquired into and that some things were found wanting. The Agricultural College especially came in for a share of their criticisms. As the leaders of the party sat about the corridors of the National Hotel, at Topeka, where they had established their headquarters, they generally agreed that President Fairchild was an uncompromising Republican, an autocrat, and a man who had outlived his usefulness, that the Faculty was rusty, that the College should give more attention to economic science, that the Experiment Station should be made more effective, and that the executive powers of the President should be pruned.

The College needed a new building and had asked for appropriations for equipments and running expenses amounting to a total of over $250,000. To get these appropriations made necessary the presence in Topeka of an effective manager and lobbyist who would be in political accord with the legislature and the governor. President Fairchild saw that under the existing conditions he could do the College little good at the State Capitol, and urged the sending of another member of the Faculty. In 1893, when the conditions at Topeka were similar, the College was represented by Prof. J. D. Walters, who succeeded in getting $70,000 for the new Library Hall. This time the choice fell upon Prof. Thomas Elmer Will, of the Department of Political Science. Professor Will was successful in this for him new work, but he did not hesitate to discover that he could make "hay" for himself. As he came in contact with the leaders of the party he also impressed them somehow that he fitted their ideal of a college president.

It would be incorrect to say that Professor Will hastened the impending crisis at the College. That would have come without him.

He did not undermine the credit of President Fairchild and did not place his interests above those of the College; he simply appeared at Topeka at the right time, and circumstances did the rest. The Board, at least, positively denied the rumor that President Will had been instrumental in bringing about the resignation of President Fairchild. It asserted this publicly from the rostrum of the chapel and later, when the rumor persisted, it published a statement in the *Industrialist*, which read:

"Whereas statements to the contrary have been and are being industriously circulated, the Board of Regents hereby expressly declare that Professor Will is in no sense responsible for the amendment to Senate bill No. 547, whereby the President of the College was deprived of his regency; that he did not instigate or suggest the removal of President Fairchild from the Presidency of the College; that Professor Will was not an applicant for the Presidency of the College, and that at no time has he ever suggested his desire or willingness to occupy the office of President of the College, until directly interrogated by members of the Board at their present session."

The Senate bill referred to in this statement by the Board was an act reorganizing the Board of Regents. It extended the tenure of office of the members from three years to four years, increased the number of its members from five to seven, and robbed the President of his ex-officio membership. It was undoubtedly designed for the purpose of placing the government of the College in the hands of the Populists for at least four years, come what may. The law reads as follows:

SECTION 1. The government of the College is vested in a Board of seven Regents, all of whom shall be appointed by the governor and confirmed by the Senate, and whose term of office shall be four years. Five of said Regents shall be appointed on or before the first day of April, 1897, one of whom shall hold his office until the first day of April, 1899, and four of whom shall hold their office until the first day of April, 1901; two shall be appointed on or before the first day of April, 1898, to hold office until the first day of April, 1899, and on or before the first day of April, 1899, and every four years thereafter previous to the first day of April, three Regents, and after the first day of April, 1897, four Regents shall be appointed by the governor and confirmed by the Senate for a term of four years each, their terms expiring on the first of April.

But nothing in this act shall be construed so as to restrain the governor from appointing Regents before the expiration of the regular legislative session.

Whenever any vacancy shall occur in the said Board of Regents it shall be the duty of the governor at once to appoint some suitable person to fill the vacancy. And when any appointment is made while the legislature is not in session the appointee shall hold his office until action is taken upon

his appointment by the Senate; and if the Senate fails to take action thereon his term of office shall expire at the close of the session, and the governor shall fill the vacancy as in other cases.

SEC. 2. No one connected with the College as professor, tutor, teacher, or employe, shall be a Regent.

SEC. 3. The Regents shall elect a President, who shall be the chief officer of the College, and the head of each department thereof, and the secretary of the Board of Regents, and whose duties and powers, otherwise than as prescribed in this act, shall be prescribed by the Board of Regents.

SEC. 4. All acts and parts of acts in conflict with the provisions of this act are hereby repealed.

SEC. 5. This act shall take effect and be in force from and after its publication in the *Topeka State Journal*.

THE NEW BOARD.

In accordance with this law Governor Leedy, who, unlike his Populist predecessor, Lewelling, was not averse to radical changes in the State institutions, appointed five board members, two Republicans—C. R. Noe and C. B. Doughters—holding over. The Populist members were Ex-Congressman Harrison Kelley, Ex-Congressman T. J. Hudson, C. B. Hoffman, Mrs. Susan J. St. John (the wife of Ex-Governor St. John), and J. N. Limbocker. The Board was a strong one. The leaders, Kelley and Hoffman, were men who meant what they professed and who were ready to do anything that, in their opinion, could advance the causes for which populism stood. They now had the power to shape the policy of the College, and they came to Manhattan for the purpose of shaping it. In the very first meeting they "suggested" to Fairchild that, on account of their differences in "fundamentals," he ought to tender his resignation, and when he complied (See Fairchild's biography in chapter XI) they proceeded at once to elect in his place Prof. Thomas Elmer Will, of the chair of political science.

The writer uses the word "fundamentals" because it was used by the Board in justifying their action of changing executives. When pressed for a definition they made statements to the effect that their reasons for "resigning" Fairchild were partly of a political and partly of a business character. They held that the laboring and producing classes, for whose benefit the College had been founded, should be better instructed in political science and national economy and that it was the duty of the College to cause its students to more thoroughly investigate the subjects of money, banking, production, and tariff. They accused the former management of swamping the Faculty with half-educated men, of neglecting the development of the Agricultural Department, of letting some of the professors shirk their work and leaving it in the hands of their assistants, of conducting the Experiment Station in a neg-

ligent manner, of crushing the "freedom" of instruction, etc They also held that every chair in the College became vacant at the close of every College year, and that a formal reëlection of the professors or employes was necessary, while President Fairchild held that the professors, in accordance with old usage in higher institutions of learning, were engaged for lifetime or during "good behavior."

Having elected a new President, the Board felt it their duty to support him and give him "a backing" in the Faculty. To this end resignations were asked of Profs. Geo. T. Failyer, E. A. Popenoe, Chas. C. Georgeson, S. Mason, and D. E. Lantz. These were informed of the new rule concerning the tenure of their engagement and given the alternative of "resignation or drop." As may be expected, there was much excitement in the College and in Manhattan. For weeks the press of the State flamed with articles, both pro and con, discussing the acts of the Board, and the excitement increased when it became known that several other professors had voluntarily resigned or offered to resign to show their disapproval of the acts of the new regime.

But the Board and the new President were not dismayed by the noise. They immediately cast about for new professors; the course of study was revised; the time given to history and economics was greatly increased, and the *Industrialist* was changed from a weekly newspaper to a monthly magazine. The old course of study had provided for one term (five hours per week) each of general history, civics, and economics. The new course contained a term each of U. S. history, general history, nineteenth century history, industrial history, civics, elementary economics, principles of economics, economic problems, and finance—an increase of about 300 per cent.

THE NEW FACULTY AND ITS WORK.

Among the new members of the Faculty were several who had a wide reputation as writers on political and economic topics. Prof. E. W. Bemis, formerly of Chicago University, and Prof. Frank Parsons, formerly an author of economic books and a lecturer on law in Boston University, were called to the chairs of political science and history, respectively. The chair of domestic science was offered to and accepted by Mrs. Helen Campbell, the author of numerous popular books on domestic science and sociology. The chair of agriculture was filled with an alumnus of the College, Prof. Henry M. Cottrell, formerly an assistant of Professor Georgeson and later superintendent of Vice-president

Morton's model dairy farm, "Ellerslie," on the Hudson. The chair of mathematics was given to Miss Mary F. Winston, a graduate of Bryn Mavr and of Goettingen, Germany. Later this chair was divided, and the linear mathematics and surveying were given to Dr. Arnold Emch, the author of several books on mathematical subjects and a postgraduate of this College, the Kansas State University, and the University of Zürich, Switzerland. The important chair of chemistry was divided, and Prof. Julius T. Willard, a graduate of the College and for several years assistant to Professor Failyer, was given the pure chemistry and Dr. Geo. Weida, a graduate of Johns Hopkins University and the State University of Kansas, the applied chemistry. The chair of horticulture was filled by appointing Prof. E. E. Faville, formerly of the Nova Scotia School of Agriculture. The chair of the newly organized Department of Oratory was given to Prof. Fredric Augustus Metcalf, a member of the Faculty of Emerson College of Oratory, Boston. After the resignation of Prof. Oscar Olin the chair of English was offered to and accepted by Dr. Duren Ward, a former minister of the Unitarian church.

President Will was now in his element and felt elated by his success in rallying such a Faculty. He himself was a man of unusual energy, a good organizer and a good mixer, a man who literally worked day and night. The Board and the Faculty seemed to be of one mind. The enrolment was satisfactory. It grew from 734 in '96-'97, to 803 in '97-'98, and to 870 in '98-'99. Everything seemed to work out as expected, and the newspaper controversies that continued all over the State were rather enjoyed by the "left" wing of the Faculty. President Will and his colaborers in the Economics Department wielded sharp pens and were ever ready to break a lance. The *Industrialist*, now changed to a monthly magazine, bristled with articles on free silver and banking. Professor Parsons wrote socialogical newspaper and magazine articles by the score. Professor Bemis began to give afternoon lectures on the lawn in front of his residence, and students and citizens flocked there in dense crowds to hear him propound municipal ownership of commodities. Professor Ward organized a Unitarian church, and the receptive faction of the students were highly elated to hear the old gospel preached according to the new version. The little stone church at the corner of Poyntz Avenue and Sixth street was filled to the last inch every Sunday with disciples who had been more or less converted to Doctor Ward's views. In the summer of 1897 the College organized a number of professional four-year courses: A course in agriculture, a course

in mechanical engineering, a course in domestic science, and a general science course. It also organized a short course in dairying and contemplated the organization of courses in electrical engineering, civil engineering, and architecture. In the spring of 1898 a College bookstore and a College dining-hall were created, both of which started to do business at the beginning of the fall term. The former was to sell books, tools and stationery at actual cost to students and members of the Faculty. It was placed under the supervision of the senior member of the Faculty

Kedzie Hall.

and did a rushing business while it lasted. In less than eight months it handled nearly $8000 worth of books and apparatus, and though it sold at an advance of only about two to two and one-half per cent over the cost price of the goods there was no deficit when the business was stopped. The latter was located in the basement of the Domestic Science Hall and put under the care of Mrs. Helen Campbell and her successor, Miss Stoner. It provided a wholesome dinner, consisting of soup, meat, bread, vegetables and pie, at the low price of $8\frac{1}{3}$ to $12\frac{1}{2}$ cents per meal. These dinners became popular at once, and several hundred students and members of the Faculty dined there regularly.

GROWTH AND IMPROVEMENTS FROM 1897 TO 1899.

Among the building improvements made during the administration of President Will may be mentioned the erection and completion of the Domestic Science Hall—now Kedzie Hall—the first

college building in America exclusively devoted to the instruction of women in the arts of cooking and sewing. The building was completed at a cost of only $15,000, and served its purpose till 1908, when a much larger and costlier building was erected for this purpose. It was named Kedzie Hall after Prof. Nellie (Sawyer) Kedzie, who occupied the chair of domestic science from 1882 till 1897. It is now the home of the Printing Department.

Another effort for which President Will and the Board claimed much credit is the eradication of tuberculosis from the College herd. It was known for years by the Faculty that the herd of high-grade shorthorns and Holstines were badly afflicted by tuberculosis, but as there were no funds available for replacing the animals the rumors that got abroad were hushed. When Doctor Fisher, the new veterinarian, became medical guardian of the herd he insisted that it was in very bad shape, and he and Professor Cottrell brought the matter before the Board, who ordered the killing of the whole lot. The slaughtering was done in public and proved that the professors were right, but a controversy sprang up over the killing as if it had been a political act. The press of the whole country—even of Europe—echoed of the killing and its various aspects.

THE SILLY BEQUEST.

During the presidency of Professor Will the College received a valuable bequest from Charles Silly, a Frenchman who came to Kansas in 1874. He owned 240 acres of fine, well-improved land in Franklin and Coffey counties, valued by him at $5000 (at present worth at least $20,000), some money in the bank, and some property in France. He lived a solitary life, caring for no one's society. On April 1, 1899, he sent for a neighbor, F. L. Williams, and stated to him that he was old and sick and, as he was a bachelor without near relatives, he wanted to give his property to the young men of the Agricultural College to help them obtain an education. He said he believed that a boy would make a better citizen for having attended this institution, and talked with Mr. Williams about the plans to handle the bequest. Mr. Silly left soon after for California and never corresponded directly with the officers of the College. He did not live long after making the bequest, and there is no one, except Williams, who knows of the intentions of Mr. Silly and his plans of managing the estate and aiding the students. Mr. Williams has, since 1898, farmed the Silly farm, built some farm buildings on it, loaned money to the students on promisory notes, and in general conducted the bequest without close supervision on the part of the Board of Re-

gents, though at the end of each year he renders a short report of his financial operations.

THE COLLEGE IN THE SPANISH WAR.

In the spring of 1898 quite a number of students enlisted in the U. S. army that was raised for the Spanish war. Besides those who left College to join the ranks many graduates and old students were officers and men in regiments of Kansas and other states. Following is a list of students who joined Company H, Twenty-Second Kansas Volunteer Infantry. This was composed of students from the three State colleges and two private colleges. It was known as the college company:

Henry M. Thomas, first lieutenant.
Abner David Whipple, sergeant.
Homer Derr, sergeant.
Harry Pratt, corporal.
Ernest M. Clark.
Samual Dolby.
Hakon Hansen.
Roscoe R. Keeler.
Lot Parker Keeler.
Ray O. Porter.
Eugene V. Roe.
Lawrence M. Shearer.
Osborne P. Shearer.
John Wyse.

The following were students of the College during the spring term of 1898, and either left the College to enter the army or else enlisted at the second call, immediately after Commencement:

R. B. Mitchell, sergeant, 22d Kan.
M. D. Snodgrass, 22d Kan.
H. L. Snodgrass, 22d Kan.
Merle Newell, 22d Kan.
C. D. Montgomery, 21st Kan.
W. W. Shoffner, 20th Kan.
Philip Fox, sergeant, 20th Kan.
Emery S. Adams, 20th Kan.
H. W. Yenawine, sergeant, 22d Kan.
L. H. Thomas, 22d Kan.
R. A. Streeter, 22d Kan.
R. B. Peck, 22d Kan.
G. R. Crawford, 1st. lieut., 22d Kan.
G. E. Martin, corporal, 22d Kan.
W. J. Martin, 22d Kan.
P. F. Fleming, 20th Kan.
H. P. Nielsen, corporal, 22d Kan.
R. S. Wood, 21st Kan.
Bolivar K. Walters, 22d Kan.
Anthony Kolsky, 22d Kan.
E. W. Tague, 22d Kan.
Albert Krotzer, 22d Kan.

In addition to the foregoing, the following forty-five former students of the College were in the army during the war:

George G. Boardman, 21st Kan.
Robert M. Lee, 20th Kan.
Judd Bridgman, 20th Kan.
John Holland, 2d U. S. Engineers.
Albert Todd, captain,—Artillery.
James G. Harbord, lieut.,—Regulars.
N. M. Green, 16th Regulars.
Douglas Morrison,—Tex.
W. A. Cavenaugh, 2d lieut., 20th Reg.
Charles S. Evans,—Colo.
W. H. Painter, 7th Cal.
Georges Grimes, 20th Regulars.
George McDowell, 22d Kan.
W. O. Staver,—Regulars.
Foster Day, 22d Kan.
Chas. R. Edwards, sergeant, 21st Kan.
L. C. Criner, 1st lieut., 21st Kan.
Lew Hardy, Hosp. Corps, Regulars.
F. H. Hunt, 21st Kan.
Pearl Porter, corporal, 23d Kan.

James Beck, Jr., 23d Kan.
W. E. Jackson, 20th Kan.
O. G. Palmer, sergeant, 1st U. S. Vol. Cav., Rough Riders.
Captain McGinnis, 1st U. S. Vol. Cav., Rough Riders.
W. K. Blachly, 20th Regulars.
Wm. McCord, 20th Kan.
Ralph McDowell, 20th Kan.
Frank A. Coe, lieut., — Regulars.
Eli A. Helmick, lieut., — Regulars.
Charles M. Paige, 22d Kan.
Truman Allen, Hospital Corps.
C. A. Johnson, Hospital Corps.
Mark Wheeler, 2d lieut., 4th Regs.
I. S. Martin, 7th Cal.
Ralph Worden, 21st Kan.
Homer Robison, 20th Kan.
W. O. Strahl, corporal, 22d Kan.
Sprague Farman, 22d Kan.
Chase Cole, corporal, 20th Kan.
Elmer Hathaway, Hosp. Corps, Regs.
George Finley, ———.
Robert Garret, — Cal.
A. M. Ferguson, corporal, 20th Kan.
Albert Porter, 23d Kan.
Grant Allen, corporal, 20th Regs.

SPECIAL SESSION OF THE LEGISLATURE.

The students behaved well during Professor Will's presidency. They were generally satisfied with the new order of things, but not so a majority of the alumni, the city of Manhattan, and the State. The College bookstore, the College dining-hall and the College printing-office were not popular down town. In the spring and summer of 1898 the political fight between the Republicans and Populists rather increased than decreased in fury, and the College became once more a storm center. The Faculty, too, were not harmonious, and President Will was not just "diplomatic" in quelling differences. Regent Harrison Kelley, the pilot of the Board, had died, Profs. Helen Campbell, Oscar Olin and Ozni Hood had resigned, a Republican victory in the fall of 1898 became a certainty, and with it appeared the "ominous handwriting on the wall." When the November election placed the Republican party in possession of the State government, the partizan press demanded vociferously the cleansing of the State institutions from all Populists who had made themselves obnoxious or conspicuous. The death of Regent Kelley had reduced the Populist Regents to six, three of whom would lose their seats in April, 1899, and this meant a majority of Republican Regents before the close of the school year. In December, however, Governor Leedy called a special session of the old legislature to pass a number of laws for the purpose of governing and regulating railroads, and this gave him an opportunity to appoint two additional Populists, a move that was highly appreciated by the "left" wing of the Faculty. The Senate promptly confirmed the appointed Regents, Wm. H. Phipps and Carl Vrooman, but to be certain of its concordance President Will addressed a circular letter to the members, from which the following interesting paragraphs are excerpted:

"At the last legislative session a law was passed lengthening the terms of Regents of the Agricultural College from three years to four and superseding the President of the College, till then a Regent, by a seventh Regent appointed by the governor. By the provisions of this law the terms of four of the Regents will expire regularly at the end of one biennium, three at the end of the next and so continuing every two years in groups of four and three respectively.

"But the death of Regent Kelley will have broken, after April 1, 1899, the majority of members appointed by Governor Leedy, which, by the provisions of the law, would have continued until 1901. The appointment and confirmation at the present session of a successor to Regent Kelley will restore this majority and insure the continuance until 1901 of the present policy. Whether this be desirable the following showing may briefly indicate:

"Since assuming control in April, 1897, the present Board has removed, from the Faculty of twenty-four, eight persons. These vacancies have been filled with competent talent, the governing principle in removals and appointments being that of 'no removal except for cause and no appointment except for merit.' In both removals and appointments political preferences have been ignored. This position has been fully set forth in an official statement of the Board.

"Competent judges, regardless of party, admit that the efficiency of the institution has been greatly increased. The present management has added to the single general course of study special courses in agriculture, engineering, architecture, household economics, and dairying, and is about to add a course in civil engineering. It has erected the domestic science building granted by the last legislature and about to be dedicated, has housed the Departments of Household Economics and Sewing, established a dining-hall in which meals are furnished to students and employes at cost, and a bookstore at which students' books and supplies are furnished, also at cost, has established a line of practical experiments in seed breeding, moisture conservation, dairying, fruit culture, inoculation for swine plague, etc., eliminated tuberculosis from the College herd, made of the College paper a high-grade magazine, put the institution before the people in a way hitherto unknown and, despite opposition, greatly increased the enrolment over that of all preceding years.

"From the beginning the Board has taken a stand in favor of the freedom of science and teaching. In the belief that truth has nothing to fear but everything to hope from the fullest inquiry

and the freest discussion, the Board has insisted that in the class rooms of this College each teacher shall be absolutely free to present the truth as he sees it, and each student shall be equally free to press his queries until satisfied. It is gratifying to state that, thus far, the results of this policy have been highly satisfactory to all concerned.

"If the policy thus outlined is deemed worthy and the results adequate, we ask your endorsement of the management at the

Faculty of 1898.

present special session by the appointment and confirmation of a successor to Regent Kelley; and we also ask that the acceptable services of Regent Phipps be recognized by the confirmation of his appointment."

Apparently, the Populists had fortified themselves for another term of two years, but in order to be doubly sure the president of the Board, early in March, made written contracts with some of the professors, engaging them for the following College year at stipulated salaries. The contracts were drawn up with care and duly signed by the president and the secretary of the Board. To these arrangements for an effective defense the Republicans made no objections, but made their preparations to capture the government of the institution by means of a "coup d'etat." Governor Stanley sent the State accountant to make an examination of the books and affairs of the College, with orders "to find something,"

and the officer found a number of irregularities that were considered sufficient to oust two of the Regents and replace them with Republicans. Editor Perkins, of the Manhattan *Nationalist*, who had been vociferous in fighting the College printing-office, was selected to bring formal charges against the Board; the governor appointed a committee of five members of the legislature to investigate the matter; a public trial was held; two or three of the seven charges made were considered proved, and Regents Hoffman and Limbocker were ousted.

Some of the charges were directed against the whole Board and some against the two members who had made themselves especially obnoxious to the incoming party. It was charged that the Board had used the institution to propagate partizan views; that it had met and transacted business in meetings without a quorum; that it had increased many salaries beyond the maximum allowed by the so-called "Jumper" act, a bill passed by the Populist legislature of 1894, limiting the salaries of all employes of State institutions; that it had created a large deficit, and that it had used the funds of the College for the purpose of running a bookstore and a dining-hall. The special charges against the two members were of a trivial character, but they served their purpose. Regent Hoffman was charged of having sold to the lady manager of the College dining-room a sack or two of graham flour. Hoffman did not deny the charge but showed that at the time when the flour was bought he was absent from his mill at Enterprise and that his bookkeeper, who made the sale, was unacquainted with the law forbidding the selling of merchandise by a Regent to the State institution which he serves. Regent Limbocker was charged with having accepted a monthly salary as purchasing agent of the dining-hall, and of having sold a load of wood to the dining-room manager. He showed that the salary amounted to much less than the per diem, which he could have drawn for his work, and that the wood was not really sold but simply exchanged, he having sent up a load of his own dry wood for a load of green wood which a farmer had tried to deliver to the College. Each party to the suit had an array of lawyers on the floor, and the spacious court room was thronged from morning till night with spectators of all political colors. The weekly Manhattan *Republic* issued a daily edition during the court week, and the expenses of the two parties to the suit must have reached a total of several thousand dollars.

A REPUBLICAN BOARD.

Governor Stanley now filled the vacancies with new men. The new members of the Board were T. E. Fairchild, of Ellsworth (later elected State superintendent of public instruction), J. S. McDowell, of Smith Center, W. T. Yoe, of Independence, Wm. Hunter, of Blue Rapids, and J. M. Satterthwaite, of Douglas. They met, declared all contracts with the members of the Faculty invalid, and discharged President Will, Professors Bemis, Parsons, Ward, and Emch, Secretary Phipps, Superintendent Davis, of the Printing Department, and Assistant Clothier, of the Department of Botany. When the case of Dr. Duran Ward was considered, a delegation of Manhattan ministers appeared and asked for an investigation of his efforts to lead the students away from the paths of orthodoxy. The discharge of these men, though expected, warmed up the press once more, and "Kansas Methods of Governing Educational Institutions" became once more the theme of newspaper and magazine articles from Dan to Beersheba.

FACULTY IN 1899.

At the close of the presidency of T. E. Will, in June, 1899, the Board of Instruction consisted of the following professors, assistants, foremen, Experiment Station officers, clerks, etc.:

Thomas Elmer Will, A.M. (Harvard), *President*.....
.....Professor of Economics and Philosophy
John D. Walters, M.S. (K. S. A. C.).....
.....Professor of Industrial Art and Designing
Albert S. Hitchcock, M.S. (Iowa Agricultural College)..Professor of Botany
Henry M. Cottrell, M.S. (K. S. A. C.).....
....Professor of Agriculture, Superintendent of Farm
Julius T. Willard, M.S. (K. S. A. C.).....Professor of Applied Chemistry
George F. Weida, Ph.D. (Johns Hopkins).....Professor of Pure Chemistry
Edward W. Bemis, Ph.D. (Johns Hopkins)..Professor of Economic Science
Duren J. H. Ward, Ph.D. (Leipsic).....
.....Professor of English Language and Literature
Arnold Emch, Ph.D. (University of Kansas).....
....Professor of Graphic Mathematics
Frank Parsons, B. C. E. (Cornell University).....
.....Professor of History and Political Science
———.....Professor of
Horticulture and Entomology, Superintendent of Orchards and Gardens
Miss Minnie A. Stoner (Boston N. S. of H. A.), B.S. (S. D. A. C.).....
.....Professor of
Household Economics, Superintendent of Domestic Science Department
Miss Mary F. Winston, Ph.D. (Goettingen).....Professor of Mathematics
Joseph D. Harper, M.S. (Rose Polytechnic Institute).....
...Professor of Mechanics and Engineering, Superintendent of Workshops
———..... .. ..Professor of Military Science and Tactics
Alexander B. Brown (Boston Music School), A.M. (Olivet).....
.....Professor of Music

Fredric Augustus Metcalf, O. M. (Emerson College of Oratory).....Professor of Oratory
Ernest R. Nichols, D. B. (Iowa Normal), B. S., A. M. (University of Iowa).....Professor of Physics
Charles S. Davis (Kansas State Normal School)...Superintendent of Printing
Paul Fischer, B. Agr., M. V. D. (Ohio State University).....Professor of Veterinary Science
Miss Harriet Howell (Pratt Institute).....Superintendent of Sewing
Miss Alice Rupp (Indiana State Normal).....Instructor in English
Miss Josephine C. Harper.....Instructor in Mathematics
Miss Helen J. Wescott.....Librarian

ASSISTANTS AND FOREMEN.

William L. House.....Foreman of Carpenter Shop
R. W. Clothier, B.S. (K. S. A. C.).....Assistant in Chemistry
Royal S. Kellogg, B.S. (K. S. A. C.).....General Assistant
J. M. Westgate, B.S. (K. S. A. C.).....General Assistant
Wm. H. Moore, M.S. (K. S. A. C.).....Foreman of Greenhouses
C. P. Hartley, B.S. (K. S. A. C.).....Assistant in Horticulture
Mrs. Mary L. Hanson, Assistant in the Department of Household Economics
Charlotte J. Short, M.S. (K. S. A. C.).....Asst. in Household Economics
Enos Harrold.....Foreman of Iron Shop
Margaret J. Minis.....Assistant Librarian
R. B. Mitchell...Cadet Major and Acting Commandant of College Battalion
Lorena M. Helder, M.T. (Kan. Con. of Music), B.S. (K. S. A. C.).....Assistant in Music
R. H. Brown, M.T. (Kan. Con. of Music), B.S. (K. S. A. C.).....Assistant in Music
Mrs. Winnifrede W. Metcalf.....Assistant in Oratory
S. N. Chaffee, B.S. (K. S. A. C.).....Principal of Preparatory Department
J. D. Rickman.....Foreman of Printing Department
Ora G. Yenawine, B.S. (K. S. A. C.).....Assistant in Sewing
Chas. W. Pape, M.S. (K. S. A. C.).....Asst. in Vet. Science and Biology

ASSISTANTS IN EXPERIMENT STATION.

F. C. Burtis, M.S. (K. S. A. C.).....Feeding and Field Work
D. H. Otis, M.S. (K. S. A. C.).....Dairying
G. L. Clothier, B.S. (K. S. A. C.).....Botany
P. J. Parrott, A.B. (Kansas State University).....Entomology
W. L. Hall, B.S. (K. S. A. C.).....Horticulture

OTHER OFFICERS.

Wm. Canfield Lee, A.B. (Kenyon).....Private Sec. to Pres.
Lorena E. Clemons, B. S. (K. S. A. C.).....Acting Secretary
Eugene Emrick.....Janitor
Jacob Lund, M.S. (K. S. A. C.).....Engineer

XIII.

PRESIDENT WILL AND HIS COLLABORATORS—PROF. E. W. BEMIS—PROF. FRANK PARSONS—PROF. MARY WINSTON—PROF. HENRY M. COTTRELL—PROF. HELEN CAMPBELL—PROF. A. EMCH.

THE FACULTY called to Manhattan by Pres. T. E. Will was in many respects a strong one. Even the political opponents conceded that he had selected men of high attainments. The "economists" were often involved in political and socialogical controversies with newspapers, but the professors were never treated as light-weights by their antipods. Nor did all the members of the Faculty belong to the new party. Professors Olin, Hood, Harper, Weida, Fisher, Willard, Winston, Faiville and others were not known to be Populists and only a few of the members of the teaching force believed in the free silver doctrine. President Will himself was a hard worker, a forceful public speaker, and a prolific writer, and there was never any doubt among his associates about the honesty of his purposes. The student body was loyal to him; in fact, those under his immediate influence liked him best.

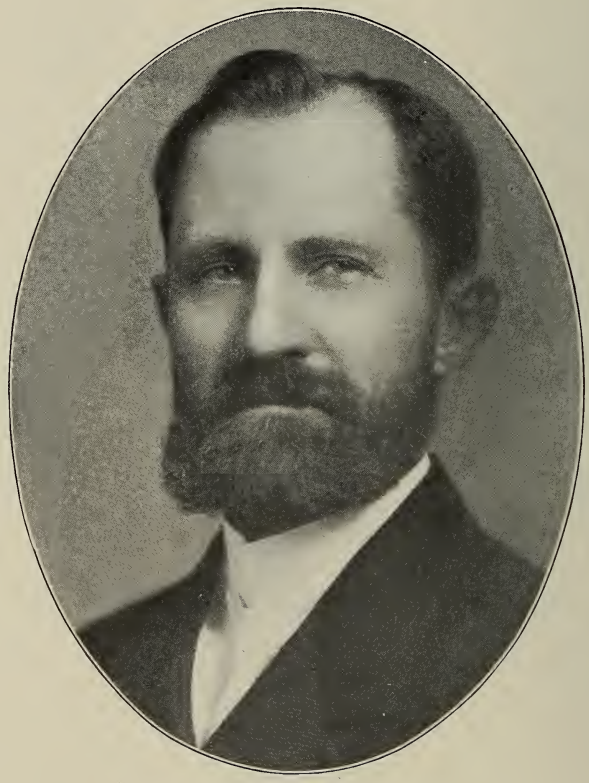
PRES. T. E. WILL.

Thomas Elmer Will, M. A., was born November 11, 1861, at Stones Prairie, Adams county, Illinois. He spent the first seven years in that state, for most part in the village of Plainfield, and the next seven in Carroll county, Missouri, on a farm. He then removed with his parents to Roanoke, Woodford county, Illinois. His early years were uneventful and he had meager opportunities for schooling. He read much, however, and became determined to secure a liberal education. Between the ages of fourteen and eighteen he worked on the farm, or studied, often seriously hampered by failing eyesight. In 1880 he taught a country school.

In 1882 he entered the Illinois State Normal and graduated in 1885. He then resumed teaching, serving for three years successively as grammar teacher in Lacon, Ill., as principal of public schools in Calconda, Ill., and as principal of Edwards Grammar School in Springfield, Ill. In the fall of 1888 he entered the University of Michigan, continuing for one year. He then entered the senior class in Harvard College and graduated in 1890. At the end of this year he was made Henry Lee's fellow of political economy and at the end of the following year he was given the degree

of A. M. Throughout his university work he specialized in education, history, economics, and sociology.

On completing his university studies he married Miss Van Velsor Rogers, of Cambridge, Mass., and accepted the chair of history and political science in Lawrence University, at Appleton,



Pres. T. E. Will.

Wis. Here he continued for two years, after which he returned to Boston for one year, where he helped in organizing the Union for Practical Progress, delivered courses of lectures on economics, and wrote a series of sociological articles for the *Arena*. In the summer of 1894 he was called to the chair of political economy in the Kansas State Agricultural College, where he continued until 1897 when he was elected President.

The executive office became his without an effort, but it gave him meager opportunities to test his abilities as the head of a higher institution of learning. The State was the center of a

political upheaval in which he became a prominent figure. He was too warm-blooded and too young to play "hedger." He took side and two years later his side lost. He was probably not a full blood Populist at any time, but he advocated bimetalism and state ownership of public utilities, and spoke and wrote boldly in favor of his doctrines. This was enough. The free silver combination lost out and President Will, together with a number of his collaborators in the Faculty, were "resigned." The faithful work which he had done in the class room and in the executive office was acknowledged by foe as well as friend, but it availed him nothing. (See preceding chapter.)

The six years following the close of his work at the Kansas State Agricultural College he devoted primarily to emphasizing the principles taught in his lectures, addresses, and papers while President. The first year and a half were spent in Manhattan and Chicago lecturing and writing. Most of the period of 1900–'03 was devoted to educational, literary and administration work at Ruskin College, Trenton, Mo., where he was president. The next two years he gave to similar work in Wichita, Kan. In 1905 he was appointed to a position in the United States Census Office, and later in the American Forestry Association, Washington, D. C., where he still remains. In connection with this forestry work he has written widely for the magazines and has lectured in twenty different states, sixty-four illustrated chautauqua lectures having been given in 1908 in Wisconsin, Minnesota, Iowa, and Missouri.

The Kansas State Agricultural College is deeply indebted to Ex-President Will for many new things and new ideas, and as time passes his memory in Kansas will become brighter and more just. He will be given credit for greatly increasing the attendance, for diversifying the work by the organization of different courses, for habituating the legislature to the idea of appropriating liberally to the College, and for stimulating original work and research in the Experiment Station and in the many fields of abstract science. He will be absolved from the charge of having been a mere politician and will be given his proper place among the makers of the College.

PROF. E. W. BEMIS.

Prof. Edward W. Bemis, Ph. D., was born April 7, 1860, at Springfield, Mass. He was graduated from the Springfield (Massachusetts) High School in 1876, and from Amherst College in 1880, receiving the honors of the class in history and political economy. He received the degree of Doctor of Philosophy in history and political economy at the Johns Hopkins University in

1885, after three years of resident study there and two years of private study while teaching and doing editorial work in Minneapolis and St. Paul.

During the next three years the professor gave courses of lectures at Mt. Holyoke College, Vassar College, Ohio State University, and Adrian College. In the fall of 1887 he conducted at Buffalo, N. Y., the first university extension course ever given in this country. From January, 1888, until July, 1892, he was in charge of the economics and history at Vanderbilt University, Nashville, Tenn. From September, 1892, until September, 1895, he was associate professor of economics at the University of Chicago. After that date he worked for two years for the Illinois Bureau of Labor Statistics and at editorial work for the Chicago *Record* and the publishers of the *Bibliotheca Sacra*. He also gave college courses at the University of Illinois and Syracuse University. Before coming to Manhattan he had published a monograph on "Local Government," a pamphlet on municipal ownership of gas in the United States, and a report of the Illinois Bureau of Labor Statistics for 1896, containing chapters on the street railways and gas companies of Chicago.

Doctor Bemis remained at the Kansas State Agricultural College from 1897 to 1899 as the head of the Department of Economics. He was a scholarly and energetic teacher and, though he belonged to the school of advanced thinkers of his period, he was conservative in all of his work. Students and colleagues were attracted by his characteristic methods of presenting the difficult subjects of his chair, and when the Populists lost the State election in 1899 there was some talk of retaining him at the College and giving him the presidency. Since his resignation at Manhattan he has made himself a name as investigator of municipal affairs in Chicago, Detroit, Buffalo, and other cities. He is to-day a recognized authority on economic questions pertaining to the municipal ownership of street railways, gas plants, and waterworks.

PROF. FRANK PARSONS.

Prof. Frank Parsons prepared for college at Aaron Academy, near Mount Holly, N. J. Later he took the civil engineering course at Cornell and graduated in 1873 in his eighteenth year. He then obtained a position on the engineering staff of a new railway; but a panic exploded the company and he began teaching in Southbridge, Mass., starting with a district school and ending a few years later as teacher of mathematics and French in the high school. A law having been passed in Massachusetts requiring the

teaching of drawing in the public schools, he then became teacher of drawing in the Normal Art School and was so highly successful that the teachers of other branches complained to the board that it was impossible to get students to give proper attention to their other studies because of their infatuation with drawing. While a teacher of the Art Normal he revised the text-book series of Prof. Walter Smith, published by the Prang Company.

In consequence of some able speeches which he made, Judge Bartholomew, a leading lawyer, urged him to study law, and a year later he was admitted to the bar. He never practiced law, however, but became a text writer for the well-known legal publishing house of Little, Brown and Co., and later accepted a position as lecturer on law in Boston University, which he held for about six years. During this period he wrote a large number of remarkable books on sociology, such as "The World's Best Books," "The Philosophy of Law," "Our Country's Need," etc. Professor Parson's "Philosophy of Mutualism," which, with many other articles from his pen, appeared in the *Arena*, gradually identified him with the growing party of municipal reformers who were not popular then but who since that time have been able to gain a foothold in many cities and states. These articles dealt with questions of monopoly, transportation, and public utilities, and were often republished in newspapers and in United States documents. He also wrote several sections of Professor Ely's Cyclopedia of Social Reform. Beside writing these books and articles the professor delivered hundreds of lectures upon social reform topics all over the country.

Professor Parsons at once made himself a name as a highly original and successful teacher at the Kansas State Agricultural College. He did not use text-books in his higher work, but taught by lectures on topics given to the students on printed slips. The list of absentees was kept by a student; and the quiz papers were graded by postgraduates. The discipline of his students was perfect and came without any effort. They seemed to form orderly debating societies rather than reciting classes. In his private life the professor was somewhat odd. He was an exceedingly plain spinster; he spoke but little, had a pleasant smile for everybody and, like the proverbial German university professor, could remember facts, faces and even figures, but not names. He was called to the chair of history and political science of the Kansas State Agricultural College in the spring of 1897, and left in 1899 to return to his old work in Boston University, where he died in the fall of 1908.

PROF. MARY F. WINSTON.

Prof. Mary F. Winston, Ph. D., was born at Forreston, Ill., in 1869. She entered the University of Wisconsin in 1884 and was graduated in 1889 with special honors in mathematics. During the two years following she was instructor in mathematics in Downer College, Fox Lake, Wis. In 1891 she was appointed fellow in mathematics at Bryn Mawr College and studied there one year.

Prof. Mary F. Winston.

During the following year she held an honorary fellowship in mathematics at the University of Chicago. In the summer of 1893 she attended, at Chicago, the mathematical congress, in which Professor Klein, of Goettingen, took a prominent part. She was honored with an invitation to attend a colloquium on mathematical subjects, held by the professor at Evanston, after the close of the congress, and became acquainted with the famous mathematician, which led to the resolution on her part to go to Goettingen, Germany, to study. She wrote to the minister of education at Berlin for a special permit to enter that old and

world renowned university, and obtained permission to do so—a privilege which had never been granted to a woman before.

Miss Winston remained in Goettingen for three years, studying pure mathematics, physics, and astronomy, and in June, 1896, successfully passed the exacting examinations for the degree of Doctor of Philosophy *magna cum laude*. While in Goettingen, Miss Winston was granted the distinction of a fellowship by the American Association of College Alumnæ. Her dissertation was published in the *Mathematische Analen*, one of the great mathematical journals of Europe.

Doctor Winston was elected to the chair of mathematics at this College in 1897 and remained here three years, when she was married to Professor Newson, of the chair of mathematics of the State University of Kansas. She was a painstaking, systematic and effective teacher of her subjects, well liked by the students and the Faculty. She departed from Manhattan with the regret, generally expressed, that a woman of her scientific attainments can not fill two positions at one and the same time: that of a college professor and that of a home maker.

PROF. HENRY M. COTTRELL.

Prof. Henry Mortimer Cottrell, M. S., the fifth professor of agriculture of the Kansas State Agricultural College, was born July 29, 1863, at Mendon, Ill. When twelve years old he removed with his parents to Wabaunsee, Kan., where he went to school in winter and herded cattle in summer. He graduated from the Kansas State Agricultural College in 1884, having taken, in addition to the regular courses, a special course in chemistry. After graduating he took charge of his father's farm, and at the same time carried on a postgraduate course in agriculture and agricultural chemistry, receiving the degree of Master of Science in 1887. In the same year he married Miss Fannie M. Dorman, a third-year student at the College. In February of 1888 Mr. Cottrell was appointed assistant agriculturist in the Kansas Experiment Station. He resigned this position in September, 1891, to accept the superintendency of Vice-President Levi P. Morton's 1000-acre farm, known as Ellerslie, at Rhinecliff-on-Hudson, New York. On this farm he built the largest dairy barn in the world. Mr. Cottrell was called to the Department of Agriculture at the Kansas State Agricultural College in 1897 and brought with him the new methods of the New York dairy industry, which he introduced in Kansas by organizing at once the short dairy course—a course which since that time has attracted hundreds of students to Man-

hattan and without which it would have been impossible to organize the creameries and skimming stations now found all over the State.

In the spring of 1902 Professor Cottrell resigned to take charge of the agricultural operations of the Ruskin Coöperative Association at Trenton, Mo., a socialistic concern of immense size

Prof. Henry M Cottrell.

started by Ex-Regent Carl Vrooman, formerly of Great Bend, Kan. Ex-President Will was engaged by the same aggregation to organize a socialistic college. Their plans seemed to work out all right for a season, but collapsed a year later for lack of cohesion of the 40,000 associated parties. From here Professor Cottrell went to Colorado Agricultural College to organize and conduct a farmers' institute department, in which work he was highly successful. The professor is an enthusiastic advocate of the planting of alfalfa. He did more for the propagation of this new plant in the West than any other man living. While at Manhattan he talked and preached alfalfa from county to county and almost

from farm to farm. He had a way of telling facts and stories about alfalfa that enthused and converted. Thousands of his hearers went home from the picnic institutes, which he organized all over the State, determined to give the wonderful protein plant an extended trial.

PROF. HELEN CAMPBELL.

Mrs. Helen Campbell was born in Lockport, N. Y., and her maiden name was Helen Stuart. Her father descended from clan Stuart, of bonnie Scotland. As a young girl she became a contributor to various periodicals for young people. The next step was writing whole books of child stories. Eight of these followed one another rapidly and several of them, like "His Grandmother" and "Six Sinners," were published in numerous editions.

Meantime Helen Stuart had become Mrs. Campbell. Her husband was an army surgeon. With him from post to post, if not from pillar to post, army life fashion, wandered Mrs. Campbell, camping, not really living, now here, now there, crisscrossing North America over and over again. She was sometimes in places where no white woman had been before. But all the time the quick eye and alert brain of the story teller were taking notes and studying the relations of facts.

One night Helen Campbell visited the famous "Jerry McAuley's mission" in New York city. "That night a champion for the wage earner was made." Misery such as was uncovered to her mind at Jerry McAuley's mission was something she had never known of before. She could not get away from it. She went and lived in the midst of it for some time, studying conditions and means of relieving them. The child stories were interrupted. Henceforth Helen Campbell was to be a sociological writer and worker. After dwelling among the poverty stricken, the ignorant and the helpless—helpless because ignorant—she wrote a monograph on the "Problem of the Poor." A novel, "Mrs. Herndon's Income," quickly followed this. It, too, dealt with the problem of the poor. The editor of a leading New York newspaper read the book. He sent for Mrs. Campbell and asked her to write a series of letters for his journal on the condition of the poor and how to alleviate it. The result was the appearance of a remarkable set of papers called "Prisoners of Poverty." A yet wider field opened for the author, and she went to Europe and wrote another set, "Prisoners of Poverty Abroad." During that trip she investigated, especially, the situation among the hapless women wage earners of the old world. This was in 1889.

After her return from abroad she continued writing novels and

essays. In 1893 she read a paper at the Chicago world's labor congress. Thereupon Prof. Richard T. Ely wrote her to come to the University of Wisconsin as special lecturer. This she did, having the post of assistant professor in the department of economics. She was also continually studying, mastering details and statistics. Naturally, being a woman, household economics claimed her attention. She wrote, studied, and experimented.

Prof. Helen Campbell.

"One must marry one's economic theory to experience before it can be of any value," she remarks. Mrs. Campbell has been called the mother of scientific household economics, which she has studied in both Europe and America.

Mrs. Campbell's book "Household Economics" was published in 1896. It is full of fact, science and practical instruction, the result of observation and experiences on both sides of the Atlantic. One of the foreign notes is this: "There are towns in Holland where even the stables are scrubbed daily, and a wandering fly or a particle of dust is attacked with passionate zeal. Yet indoors every principle of personal hygiene is violated at every turn." In the preparation of the volume "Household Economics," Mrs. Campbell received valuable aid from her friend, Charlotte Perkins

Gilman. The two wrought together for a time in Chicago in conjunction with Jane Addams, of Hull House.

In 1897 Mrs. Campbell was elected professor of domestic science in the Agricultural College of Kansas, but she soon found that the large classes and the exacting daily program would give her but little time to devote to her literary work. The peculiar political conditions were distasteful to her, and there were serious objections made by her students and their mothers about some of her teachings. This resulted in her resignation in the following year. There is no doubt that she was a brilliant member of the College Faculty and that in another period of the history of the institution she would have been better appreciated.

PROF. A. EMCH.

Prof. Arnold Emch, M.S., Ph.D., who was called in the spring of 1898 by the Kansas State Agricultural College to the newly created chair of linear mathematics, is a native of Switzerland, a graduate of the Cantonal College at Solothurn, and an alumnus of the department of pure mathematics of the University of Zurich, Switzerland. In 1894, soon after his graduation, he "went west," came to Manhattan, and accepted the position of assistant in the Department of Industrial Art. Here he was given the degree of M.S. In the following year he was elected professor of graphics in the State University of Kansas, which position he held until February, 1897, when he followed an unexpected call to the chair of mathematics at the polytechnic school at Biel, Switzerland, where, not finding favorable conditions for further growth, he stayed but one year. In 1895 he received the degree of Ph.D. of the Kansas State University—the first degree of the kind given by any institution in the State.

Like the other professors whose biographies are found in this chapter, Doctor Emch lost his chair in the reorganization of 1899, and soon after was elected associate professor of mathematics in the State University of Colorado, where he remained till 1906, when he received a call by his first alma mater at Solothurn. His father having died that spring and the paternal estate being in such condition as to demand his temporary return, he accepted the position, intending to come back to America should there be a chance.

Doctor Emch is a man of rare scientific attainments. He speaks German, French, Italian and English with almost equal fluency, and has taught mathematics in all of them. Though but thirty-five years of age, he has already made himself a name as

an original investigator among the mathematicians of this country and Europe. Of his original publications may be named a monograph on "Catacaustics," a series of articles in the *Kansas University Quarterly* on the "Involutory Transformation of the Straight Line," an article in the *Mathematical Monthly* on "A Special Complex of the Second Degree and its Relation to the Pencils of Circles," a pamphlet of thirty-five pages on "Projective Groups of Perspective Collineations in the Plane," a 267-page textbook on "Projective Geometry" (published by John Wiley & Sons, New York), and several works published in Switzerland. In 1904 he read a paper on mathematical research at the World's Mathematical Congress at the World's Fair in St. Louis, and in 1908 he was sent by the Swiss government, at their expense, as a delegate to the World's Mathematical Congress in Rome, Italy, where he read a dissertation on mathematics, written in Italian.

Dortor Emch's endorsements, when his friends applied for the position at this College, were of the strongest kind, though he had no knowledge that his name would be presented to the Board. One of them was a clipping from the *Kansas University Weekly*, in which, at the time of the doctor's departure for Biel, Professor Newson, of the chair of mathematics, complimented him as follows:

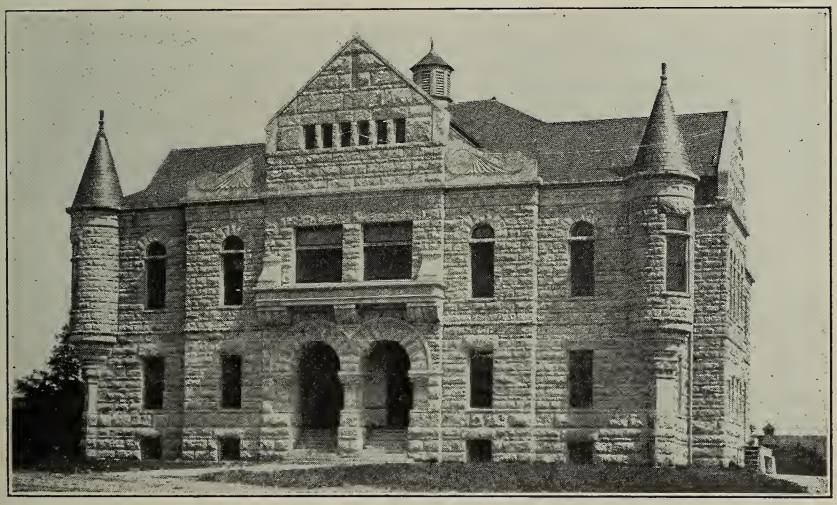
"In the departure of Dr. Arnold Emch the University of Kansas loses one of its most promising young instructors. The public is not generally aware of the mathematical ability and activity of this remarkable young man. When he applied for admission to the university two and a half years ago as a candidate for the degree of Doctor of Philosophy he made the statement that he was prepared to conduct any of the advanced courses in mathematics offered in the catalogue. This sounded like a rash statement, coming from a man of twenty-three, but the writer soon found upon acquaintance with him that his claim was less than the truth.

"His mathematical ability rises nearly to the level of genius. Educated at the University of Zurich, Switzerland, he readily absorbed the lectures of such masters of geometry and analysis as Fiedler, Frobenius, Hurwitz, Schottky, and others. In certain lines of work, such as synthetic and descriptive geometry and analytical and graphical statics, Zurich is without a rival among the universities of the world. Thus, favored by nature and educational advantages, Doctor Emch is prepared to do a very high grade of work. There are less than half a dozen men on this side of the Atlantic who can show better equipment than he for certain lines of work. It is very much to be regretted that this university

is not yet able to offer to its students advanced courses in the subjects which Doctor Emch is so well equipped to teach.

"During his stay at this university he has turned his attention more to pure mathematics. During the present term he has conducted, outside of his required duties and for the pure love of it, the first course in theory of functions ever given in the University of Kansas. His lectures were heard by a large class of our students. He has published eight papers on mathematical topics since coming to Lawrence, one of these being his doctor's dissertation. He is now well launched upon the sea of mathematical discovery, and is rapidly producing original work of a high grade. There are few men of twenty-five either in this country or in Europe whose promise and performance can measure up to his; there may be others, but the writer does not know of his equal.

"In leaving America for Switzerland he is throwing himself into the stream of Old World scientific progress where the competition for recognition and position is much more severe than here; there it is a veritable struggle for existence and only the fittest survive. It is a brave thing to do, and but few would care to take the risks. Barring accidents to his career, it is safe to venture the prediction that our university's first Ph. D. will do her honor in the learned circles of Europe. We lose a young man of brilliant promise, but Switzerland gets back that which is rightfully her own."



Agricultural Hall.

XIV.

THE REORGANIZATION IN 1899—GROWTH FROM 1899 TO 1909—NEW COURSES OF STUDY—INCREASE OF STUDENTS—A LARGER FACULTY—IMPROVEMENTS FROM 1899 TO 1909—MORE LAND—THE POISON LABORATORY—THE Y. M. C. A. BUILDING—PRES. E. R. NICHOLS—THE FACULTY IN 1909.

THE foregoing pages relate how the political pendulum swang back and gave the Republican party once more the responsibility of managing the College. One of the first steps of the new Board was the election of Prof. Ernest R. Nichols, of the chair of physics, as temporary president of the Faculty (see biography of E. R. Nichols). It was their intention at that time to leave the professor in his chair, where he had been highly successful for nine years, and find a chief executive before the beginning of the fall term, but no satisfactory candidate appeared who was willing to accept an office that had been a political storm center for many years. Several prominent educators were interviewed and urged to accept the position, but all declined. As a result, Prof. E. R. Nichols, considerably against his inclination, remained in charge of the executive chair and a year later was made President. His place in the Faculty was filled by calling Prof. Benj. F. Eyer, teacher of physical science in the Topeka high school and a graduate (B. S. E. E.) of the Armour Institute of Technology, of Chicago. The much troubled chair of history and political science was given to Prof. Carl Evans Boyd, Ph. D., who resigned a year later. It was then occupied by Prof. Chas. E. Goodell and still later by Prof. R. R. Price. In 1905 the work was divided and Prof. Julius E. Kammeyer was given the economics in addition to his work in public speaking.

The new Board also made some changes in the courses of study. The nine extra terms of history, civics and economics which the Populists had forced into the curriculum were promptly expurged, the work of the first-year classes was made uniform in all the courses, the entrance requirements were slightly raised, and the distribution of studies in the courses was altered. The work in agriculture and chemistry was increased, and physical culture was added to the work of the girls below the third year. Arrangements were also made for a small amount of elective work in the general science course. The short course in dairying was maintained and similar courses in domestic science and in agriculture were organized.

The College bookstore and the College dining-hall were discontinued, though the students petitioned for their continuance. There was little resistance, however, to any of these changes. The Populist fire had burned out and the Democratic party was badly disorganized. Manhattan was getting tired of meddling with the details of the administration. The *Manhattan Mercury* "barked" for awhile at the Board and at President Nichols, but nobody seemed to take it seriously, the *Kansas Farmer* offered many criticisms at the start, but it, too, gradually subsided. Editor Perkins, of the *Manhattan Nationalist*, who had played a prominent part in the trial of the Populist Regents, asked that the College printing-office stop the printing of *The Students' Herald* and all other pay work and demanded an ukase to this effect of Governor Stanley, but he found no encouragement. The discharged professors who had contracts with the old Board for another year commenced legal action for their year's pay. Professor Ward's suit was singled out as a test case, but two years later the U. S. Supreme Court handed down a decision stating that the board of regents of a state educational institution had practically the right to discharge any professor at any time, and that no contract of this character could be binding. As a result of the decision the other suits were never brought.

GROWTH FROM 1899 TO 1909. NEW COURSES OF STUDY.

This last decade was a period of intense growth and progress. The farmers were prosperous, real estate values increased rapidly, and the legislature made more ample appropriations. The political disturbances of the Populist period had advertised the College and the students came to Manhattan in constantly increasing numbers. Even the further raising, in 1903, 1904, and 1908, of the entrance requirements, did not check the swelling stream of young men and young women who came to the great technical school of Kansas to get the practical and scientific education which the twentieth century seemed to imperatively demand. In 1900 the College organized a course in electrical engineering and placed its professional work under Prof. B. F. Eyer, of the Department of Physics—a course that became popular at once and attracted students from all parts of the West. In 1904 Prof. J. D. Walters was authorized to organize a four-years course in architecture—a course that has been equally successful from the start. In the following year a four-years course in veterinary science was organized, and Dr. Francis S. Schoenleber, M. S. A. (Iowa Agricultural College), D. V. S. (Chicago Veterinary College),

was called to take charge of its professional work. This course, too, became popular at once and attracted students from all parts of the State, and the wisdom of organizing it has already been demonstrated in the work done and the qualification of the graduates, and in the fact that the legislature of 1907 appropriated $70,000 for a new veterinary science building which became ready for occupancy in September, 1908.

In the spring of 1908 the Board authorized the further organization of half a dozen four-years courses; namely, a course in horti-

The Dairy Barn.

culture and forestry, a course in animal husbandry, a course in dairy husbandry, a course in poultry husbandry, a course in civil engineering, and a course in printing. At the same time the entrance requirements were raised so as to include all of the mathematical and science work usually taught in the best high schools of the State (excluding practically only the work in Latin and German of the full high school work). The courses were also strengthened by the addition of a purely professional fifth year, at the end of which the graduate will be entitled to a professional B. Sc. degree.

The necessity of supplying the high schools of the State with trained teachers of domestic science induced the College in 1906 to organize an annual summer course for teachers, a course that opens in May and continues for ten weeks. In this teachers'

course attention is given to the theory of cookery, composition, preparation, and digestibility of foods, and also to the theory of teaching both cookery and sewing. Practice is provided for in laboratory, kitchen, and sewing room, and lectures and recitations are made to include everything necessary to the training of teachers for this important work. The attendance of teachers has been increasing every year, but the demand for teachers of domestic science and art is still greater than the supply. The term opens after many village and town schools close, and makes

Dairy Hall.

it possible for teachers to take it and be prepared for their work in the fall.

In the summer, fall and winter of 1908-'09 the College was involved in a serious controversy with the State University over the "proper sphere" of the two institutions. The State University had tried hard during the early seventies to obtain State legislation that would remove the College to Lawrence and combine it with the university, but, through the political influence of Presidents Denison and Anderson, Ex-Governor Green, and other citizens of Manhattan, all attempts had proved unsuccessful. In the spring of 1908 the efforts of "Lawrence" to absorb the College were renewed, and found some encouragement in the attitude of Governor Hoch, Secretary Coburn, of the State Board of Agriculture, and others. This time the plan did not involve the removal

the whole "plant," but called for the abolishing of the organized courses in engineering, and the consolidation of the two institutions under one board of regents. Similar efforts were made simultaneously in several other states that had separate land-grant colleges. Owing to the very decided stand taken by the students, alumni, and friends of the College, the plans of the University failed when it reached the State legislature. A fuller account of the "war" will be found in another chapter.

EXPERIMENT STATION AND FARMERS' INSTITUTES.

The Nichols period of the College witnessed also a rapid development of the work of the Experiment Station Department and the Farmers' Institute Department. The former greatly increased its efficiency through the purchase of more land adjoining the College farm on the north, where about 100 acres were purchased in 1904, the addition of 3600 acres of land in Ellis county in 1901, and of 240 acres in Ford county in 1900. The United States government increased its annual appropriations for the Experiment Station by passing the so-called Adams Act in 1906, which added $5000 to the annual income and stipulated that the amount should be increased each year by $2000 until the total reaches $15,000. A fuller account of the development and growth of the Station will be found in chapter XV.

In 1899 an impetus was given to the farmers' institute work by the appropriation by the State legislature of $2000 per year for the ensuing biennial period, an appropriation which was repeated three times. In 1903 a law was passed making it the duty of each county having a county farmers' institute organization to appropriate fifty dollars annually for the purpose of assisting it in meeting the expenses, and in 1909 the legislature further authorized the counties to add fifteen dollars to the fifty dollars contribution, for each local institute held in the county. The former appropriation goes to the county organization, while the latter is for the local institute. Since 1904 the institute department has been under the care of an institute superintendent (Mr. J. H. Miller), who gives all of his time to the work. There are organized in the State at this writing, in the spring of 1909, 103 county institutes and 141 local institutes. For a fuller account of the growth of the farmers' institute and College extension work see chapter XVI.

PHENOMENAL INCREASE OF STUDENTS.

The attendance grew phenomenally, increasing at an average rate of nearly 150 students per annum. The graduating classes,

too, increased from year to year. The following table gives the record of attendance from 1879 to 1908. That for 1909 is not available at this writing (April, 1909), but it will probably reach the 2300 mark:

College Year.	Domestic science short course	Farmers' short course	Dairy	Apprentice	Special	Preparatory	Sub-freshman	Freshman	Sophomore	Junior	Senior	Postgraduate	Counted twice	Total	Graduated
1878-79					1			89	89	16	12			207	9
1879-80					1			166	61	35	11	2		276	7
1880-81					6			178	48	24	9	2		267	8
1881-82					5			227	50	19	11			312	9
1882-83					4			241	60	30	12			347	12
1883-84					2			255	92	26	18	2		395	17
1884-85					2			271	71	36	16	5		401	14
1885-86					1			273	91	35	24	4		428	21
1886-87								303	100	44	24	10		481	21
1887-88								305	92	46	27	2		472	22
1888-89								266	103	41	28	7		445	25
1889-90					1			307	105	63	28	10		514	27
1890-91								343	135	50	53	12		593	52
1891-92								336	139	62	37	10		584	35
1892-93								339	110	66	43	29		587	39
1893-94								275	141	72	42	25		555	39
1894-95					5			276	108	89	64	30		572	57
1895-96					3			353	121	67	71	32		647	66
1896-97					6	67		321	163	69	62	46		734	55
1897-98			6	9	15	77		316	174	77	82	57	10	803	69
1898-99			26	35	40	110		306	177	92	65	40	21	870	53
1899-1900	24	47	57	50	32	162		376	163	109	69	27	22	1094	58
1900-01	47	109	72	79	23	318		348	183	80	74	40	52	1321	60
1901-02	41	125	66	87	19	298		396	206	120	65	32	59	1396	52
1902-03	63	123	38	78	36	342		471	229	141	86	24	57	1574	55
1903-04	51	122	16	72	33	443		403	206	161	114	20	36	1605	102
1904-05	88	99	24	12	30	500		289	198	122	117	26	43	1462	107
1905-06	92	118	28		46	598		373	214	145	110	30	64	1690	96
1906-07	134	179	23		48	144	511	411	269	149	133	24	88	1937	118
1907-08	188	173	26		42	134	528	450	357	202	148	26	82	2192	115

This table shows not only the growth of the total attendance and of the separate classes of the regular four-year courses, but gives the date of the organization of the three short courses, the apprentice course in shop work which was discontinued in 1905, and the date of the organization of the sub-freshman work. There were limited classes of sub-freshmen before 1906-'07, but they were not listed separately from the freshmen.

A LARGE FACULTY.

The increase of students, the raising of the entrance requirements and the multiplication of the courses made necessary a corresponding increase of the board of instruction. In chapter XVIII will be found a chronological table giving the appointments and additions of professors, associate professors, superintendents, and librarians. The increase of teachers was especially rapid in the Department of Agriculture, which gradually became divided

into five departments, namely: Agronomy, Animal Husbandry, Dairying, Veterinary Science, and Farmers' Institute, each segregation involving the establishment of one or more additional chairs and the appointment of a number of assistants. The catalogue of 1908-'09 will give the names, titles and chairs of probably a hundred and fifty officers and regular employes, exclusive of half a hundred student assistants. The College has at this writing:

Professors and heads of departments	27
Assistant professors	17
Instructors	12
Foremen and assistants	61
Custodian, clerks, and other officers	18
Officers and employes of the Experiment Station, not enumerated above	10
Total	145

A roster of the board of instruction of 1909 will be found at the end of this chapter.

IMPROVEMENTS FROM 1899 TO 1909.

The totals of the biennial State appropriations which the College received during the last decade are given in chapter III. They amounted to over two million dollars. In addition to these the College has had an annual income from various other sources of about one hundred thousand dollars. The main part of this income was consumed to meet the rapidly growing current expenses—salaries, payroll of employes, supplies, repairs, books and apparatus, printing, traveling expenses, etc. A considerable portion of the appropriation made by the State was received for erecting the needed buildings and providing the needed permanent improvements of the grounds. Following is a synopsis of these items together with the dates:

Buildings.	Year.	Cost.
Agricultural Hall	1900	$25,000
Dairy Barn	1900	6,000
Shop additions	1900	9,000
Chemistry and Physics Hall	1902	70,000
Sewer system	1901	3,000
Water system	1901	10,000
Library addition	1903	10,000
Auditorium	1904	40,000
Dairy Hall	1904	15,000
Shop addition	1905	5,000
Four cattle barns	1905	3,000
Boiler room addition	1906	3,000
Horticultural Hall	1906	50,000
Granary	1906	5,000

Buildings (cont.).	Year.	Cost.
Engine room addition	1907	3,000
Domestic Science Hall	1908	70,000
Veterinary Science Hall	1908	70,000
Blacksmith shop addition	1909	8,000
Woodshop addition	1909	15,000
Boiler room addition	1909	15,000
Mechanical Engineering Hall	1909	35,000
Gas plant	1909	6,000

It will be seen that the total expense, including the heating and plumbing, of these buildings amounts to considerably more than half a million dollars, while the building repairs, campus improvements, roads and walks have cost a total of about two hundred thousand dollars. These are large figures, yet the College has undoubtedly built and repaired cheaper than other State institutions and has to-day more to show for its expended funds.

These buildings were erected in the stated order, after sketches made by Pres. E. R. Nichols. The Agricultural Hall and the Auditorium were planned by Architects Holland and Squires, of Topeka; the Physical Science Hall by Architect J. G. Haskell, of Lawrence; the Dairy Hall and the Dairy Barn by Prof. J. D. Walters, and the Horticultural Hall, the Domestic Science Hall, the Veterinary Science Hall and the new Engineering Hall by State Architect John F. Stanton. Prof. J. D. Walters superintended their erection, except that of the engineering building, which was superintended by Prof. E. B. McCormick. The new greenhouse was built in 1908-'09 of "ready made" materials bought in New Jersey, and the new power-house, with its tall chimney, was erected in the summer of 1907 by Contractor Henry Bennett, of Topeka, under the direction of Prof. J. D. Walters. In 1908 the College constructed its first cement walks—some 3000 square feet, mostly near Anderson Hall and the new Auditorium.

In the winter of 1909 the Manhattan Street Railway Company built a line from the U. P. depot to the College. It had been their plan to enter the campus on the east side near the main entrance, but the Board of Regents were not willing to grant them the privilege, fearing that a track and the constantly passing cars might interfere with the aspect of the landscape and possibly disturb the class work.

MORE LAND.

In addition to these buildings and improvements, the College added during this decade several large and valuable tracts of land to its inventory. Some of this land was obtained through purchases and some by act of Congress. There were added in

1900— 240 acres in Ford county.
1901—3600 acres in Ellis county.
1904— 107 acres in Manhattan.
1908—7684 acres as balance of endowment.

In the winter of 1909 the legislature appropriated $35,000 for the purpose of purchasing additional land near the College for experimental purposes, stipulating in the act that not more than $150 should be paid per acre. At the April meeting the Board purchased two very fine quarter-sections of improved land northwest of the College which added nearly 320 acres to the present farm of 430 acres, giving the College a total of about 750 acres.

THE POISON LABORATORY.

The legislature of 1901 provided for the preparation and distribution by the College of poison for the destruction of prairie-dogs and pocket-gophers. The Board placed the solution of the peculiar problem with the Department of Zoölogy and Entomology and engaged Prof. D. E. Lantz as expert and manager of the poison laboratory. (See biographical sketch in Chapter XI.) An appropriation of $2000 per year was provided by the State to carry out this work. During the first three or four years the demand for the poison mixture was such that it required the constant work of an expert to prepare and ship it. Up to the end of 1903 fully 1200 pounds of strychnine and over half a ton of potassium cyanide was consumed in manufacturing the poison, and from 600,000 acres to 700,000 acres of land, formerly infested with the prairie-dog, were freed from the pest. Later the demand for the mixture fell off, showing that the efforts had been successful. In the last four years the annual sales amounted to about 1200 quarts of the prairie-dog poison and 500 quarts of the pocket-gopher mixture. The State appropriation was withdrawn in 1903 and Professor Lantz resigned in October, 1904, to accept the position of expert on mammals in the Agricultural Department at Washington, D. C., but the sale of the mixtures is still brisk.

The Department of Zoölogy has published a number of bulletins on the subject. Prof. D. E. Lantz wrote several press bulletins on the habits of the rodents and our methods of destroying them. His Experiment Station Bulletin No. 129, "The Mammals of Kansas," devoted much space to the discussion of the two pests. In February, 1908, Instructor Theo. H. Scheffer published a 148-page pamphlet (Experiment Station Bulletin No. 152) on the distribution, habits, natural enemies and methods of de-

struction of the pocket-gopher, and later a press bulletin on "Destroying Pocket-Gophers."

THE Y. M. C. A. BUILDING.

Among the auxiliaries added to the College during the presidency of E. R. Nichols stands prominently the erection of the Young Men's Christian Association building. The movement for a Young Men's Christian Association building was publicly inaugurated May 22, 1904. On that day Mr. E. T. Colton, of the International Committee of the Young Men's Christian Association, made an eloquent appeal for an association building at a mass-meeting of the young men of the College. Nearly $6000 was pledged by the students and teachers, and by the close of the term $3000 more was added. The average student gift at this time was about $40. During the next year $5700 more was subscribed by the students, so that altogether over $11,000 was pledged by students alone. This heroic giving was not being done by wealthy students, but for the most part by young men earning their way through College. Thirty-six of them gave $100 apiece. It is difficult to estimate the amount of sacrifice that the students put into this movement.

During the summer of 1904 a canvass was carried on among the alumni, who also responded liberally. In the fall, invitations were sent out to the business men of the city, asking them to a banquet at the Hotel Gillette. Fifty-five of the most prominent business men of Manhattan responded. H. M. Beardsley, of Kansas City, was present and made an address concerning the need for and purpose of an association building. A deep impression was made by his excellent talk, and about $2500 was added to the growing fund.

On February 17, 1905, an offer of $1000 was made through the International Committee of the Y. M. C. A., by an unknown philanthropist in the East, provided the association could raise $5000 more in three months. This offer stimulated giving to a great extent and the $5000 was raised.

The amount subscribed at the time when the building was started was about $28,000, and its total cost, when it was finished in the spring of 1908, was nearly $35,000.

It is but justice to state that much credit for the success of the Young Men's Christian Association in erecting this magnificent home is due to Secy. Willis W. McLean of the organization, who devoted several years to the realization of the project, and to Pres. E. R. Nichols, who was the financial agent of the enterprise.

PRES. ERNEST R. NICHOLS.

The election in 1900 of Prof. Ernest R. Nichols to the presidency of the Kansas State Agricultural College was an acknowledgement of his able and faithful services as acting president. No other selection could have been made that would have been received so

Pres Ernest R. Nichols.

well by the students, the Faculty, and the friends of the institution. This was all the more the case because Professor Nichols never sought the honor. He had reluctantly accepted the appointment as acting president of the College, with the understanding that he would be permitted to leave the executive office for his physical laboratory as soon as a capable man could be found, but his management of the affairs of the institution were so satisfactory that the Board as well as the Faculty began to look upon him

as the right man in the place, and urged him to accept the responsible position.

President Nichols was born at Farmington, Conn., and raised on a farm in northeastern Iowa, where he received his elementary education in the country schools. He taught in district schools one year and graduated from the Iowa State Normal, receiving the degree of Bachelor of Didactics in 1882. He then became principal of Charles City (Iowa) high school in 1882-3 and superintendent of Nashua (Iowa) public schools in 1883-4. After teaching for several years he entered Iowa State University, receiving the degree of Bachelor of Science in 1887 and Master of Arts in 1890. In 1887-'90 he was assistant professor of mathematics in Iowa State University. In 1888 he was married to Miss Marguerite Rae, of Chicago, a graduate of the Iowa State Normal. In 1890 he was elected professor of physics, Kansas State Agricultural College. In 1894 he was granted a leave of absence from June, 1894, to September, 1895, to pursue graduate work in physics and mathematics at the University of Chicago. He then reentered his former chair at the College.

President Nichols had passed step by step through every phase of public education and had risen from a farmer boy to president of a technical college of high rank. He was a man of experience, character, and tact, a man that had the full confidence of the students and his collaborators, a progressive man and a scholar. The professor placed his resignation into the hands of the Board at their March meeting in 1908, requesting that they elect a successor before July, '09. The reasons for his retirement from the executive chair were not apparent to the outsider. There had been some disturbances among the students, but the trouble was anything but serious. There had been some complaints that he was unfriendly toward certain departments, but no definite charges had ever been made. It was urged in some quarters that the College needed an orator in its executive chair, a spellbinder who was "ready to speak" at all times and all occasions, though he had never failed to express his opinion positively and forcefully when conditions demanded it.

Professor Nichols possessed many of the elements of the ideal college president, and in one he surpassed all of his predecessors: he was a scientist and could appreciate the value of science as an educational and cultural factor; he knew how to obtain scientific results by experiment; he could distinguish valuable experimental work in the field and laboratory from mere tinkering and sham work, and he was an uncompromising enemy of the latter.

His directing influence during the period of growth of the College from a scientific high school to a real technical institution of high rank was invaluable and will be felt for years to come. He was a financier who never lost sight of the available resources of the College, and the first president in the history of the institution who closed the accounts at the end of the fiscal year without a deficit. When President Denison resigned the College must have been in debt to the amount of over $30,000; at the end of President Anderson's regime there was a floating debt of some $6000. An equal deficit was inherited by President Will, and he increased it to nearly $15,000. President Nichols never permitted an actual deficit on his books. This firm stand against making expenditures at times when there was low ebb in the treasury was the cause of numerous disagreements with the heads of some of the departments, but he remained firm and saved the College the trouble and humiliation of appealing to the legislature for an appropriation for covering existing deficits.

The decade from 1899 to 1909, during which Pres. E. R. Nichols stood at the helm of the College, was one of intense growth, constant shifting of interests and readjustment of means. When he came to Manhattan nineteen years ago as professor of physics the institution had less than six hundred students; when he became president it had a thousand, and when he resigned it had way above two thousand. He raised the requirements of admission and the standards of graduation. He multiplied the courses of study. He convinced the legislature that the College must be supported by liberal State appropriations. He organized the extension work on a large scale, erected buildings, bought land, quelled factions among the Faculty and dissentions among the Board, and through all of this growth and changing and shifting he was the same steady and sturdy pilot—not verbose, but effective—never wavering, but always keeping in sight the interests of the students and the purpose and future of the school.

THE FACULTY IN 1909.

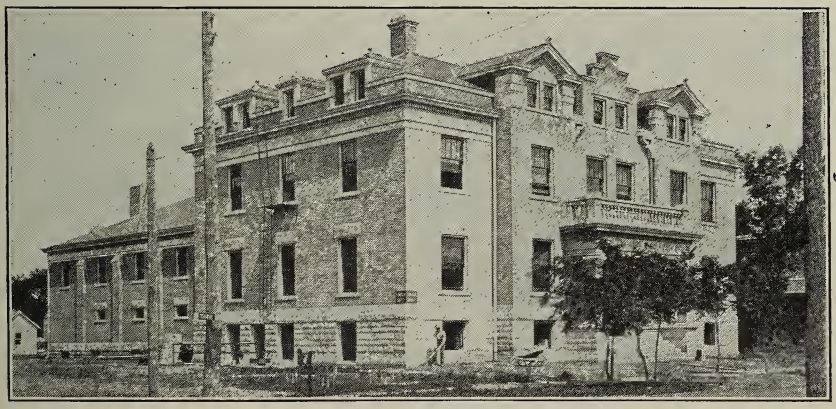
In the spring of 1909 the Board of Instruction of the College consisted of the following professors, superintendents, instructors, assistants, and other employes.

Ernest R. Nichols, A.M. (University of Iowa).....President
Ed. H. Webster, B.S.A. (Iowa State Coll.) M.S. (K. S. A. C.).....
.....Director Experiment Station
John D. Walters, D.A. (K. S. A. C.)..Professor of Architecture and Drawing
Julius T. Willard, D.Sc. (K. S. A. C.).....
.....Professor of Chemistry, Vice-Director Exp. Station
Benj. L. Remick, Ph.M. (Cornell College).....Professor of Mathematics

Benj. F. Eyer, E. E. (Armour Inst. of Tech.)..Prof. of Electrical Engineering
Herbert F. Roberts, A. B. (U. of K.), M. S. (K. S. A. C.)..Professor of Botany
William A. McKeever, Ph. M. (Univ. of Chicago)...Professor of Philosophy
Edmund B. McCormick, S. B. (Mass. Inst. Tech.).....
.....Prof. of Mech. Engineering, Supt. of Shops
Albert Dickens, M. S. (K. S. A. C.).....
.....Professor of Horticulture, Supt. of Grounds
Clark M. Brink, A. M. (U. of R.), Ph. D. (Univ. of City of New York)...
.....Professor of English
Albert M. TenEyck, B. Agr. (Wisconsin).....
.....Professor of Agronomy, Supt. of Farm
Ralph R. Price, A. M. (U. of K.).....Professor of History and Civics
Julius E. Kammeyer, A. M. (Central Wesleyan College).....
.....Professor of Economics
John V. Cortelyou, A. M. (Uni. of Neb.), Ph. D. (Heidelberg).....
.....Professor of German
Olof Valley, B. M. (Chicago Conservatory).....Professor of Music
F. S. Schoenleber, D. V. S. (Chicago Vet. College).....
.....Professor of Veterinary Science
Roland J. Kinzer, B. S. A. (Iowa State College).....
.....Professor of Animal Husbandry
Walter E. King, M. S. (Cornell).....Professor of Bacteriology
Thomas J. Headlee, Ph. D. (Cornell).....Professor of Entomology
Chas. H. Boice, First Lieutenant Seventh Cavalry, U. S. A.....
.....Professor of Military Science
John C. Kendall, B. S. (N. H. A. & M.).....Professor of Dairy Husbandry
John O. Hamilton, B. S. (Chicago).....Professor of Physics
Mrs. Mary P. VanZile (K. S. A. C.) (Iowa State College).....
.....Professor of Domestic Science
Joshua D. Rickman.....Superintendent of Printing
Miss Marguerite E. Barbour (Sargent Nor. Sch. Phys. Tr.).....
.....Director of Physical Training
Miss Antonetta Becker (Drexel).....Superintendent of Domestic Art
Robert J. Barnett, B. S. (K. S. A. C.)....Principal Preparatory Department
Miss Gertrude Barnes.....Librarian
John H. Miller, A. M.....Superintendent Farmers' Institutes
Miss Lorena E. Clemons, B. S. (K. S. A. C.).....Secretary
William R. Lewis.....Custodian
Jacob Lund, M. S. (K. S. A. C.)..Superintendent Heat and Power Department
Andrey A. Potter, S. B. (Mass. Inst. Tech.).....
.....Asst. Professor of Mechanical Engineering
Robert H. Brown, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.).....
.....Assistant Professor of Music
Benj. R. Ward, A. M. (Harvard).....Assistant Professor of English
Geo. A. Dean, M. S. (K. S. A. C.).....Assistant Professor of Entomology
George F. Freeman, B. S. (Ala. Polytech. Inst.).....
.....Assistant Professor of Botany
Geo. C. Wheeler, B. S. (K. S. A. C.).....
.....Assistant Professor of Animal Husbandry
William H. Andrews, A. B. (Univ. of Chicago).....
.....Assistant Professor of Mathematics
Robert E. Eastman, M. S. (Cornell University).....
.....Assistant Professor of Forestry
Leland E. Call, B. S. (Ohio State University)...Assistant Professor of Soils
L. E. Conrad, M. S. (Lehigh).....Assistant Professor of Civil Engineering

K. W. Stouder, D. V. M. (Iowa State College).....
.....Assistant Professor of Veterinary Science
Miss Ada Rice, B. S. (K. S. A. C.).....Instructor in English
Miss Ella Weeks, A. B. (U. of K.).....Instructor in Drawing
Miss Daisy Zeininger, B. A. (Fairmount).....Instructor in Mathematics
Leonard W. Goss, D. V. M. (Ohio State University).....
.....Instructor in Veterinary Science
Miss Ula M. Dow, B. S. (K. S. A. C.).....Instructor in Domestic Science
Theo. H. Scheffer, A. M. (Cornell University).....Instructor in Zoölogy
Herbert H. King, M. A. (Ewing College).....Instructor in Chemistry
John B. Whelan, M. A. (Nebraska).....Instructor in Chemistry
Louis H. Beall, A. B. (Denison).....Instructor in English
Roy A. Seaton, B. S. (K. S. A. C.)....Instructor in Mechanical Engineering
William L. House.....Foreman of Carpenter Shop
Louis Wabnitz.....Foreman of Machine Shops
Miss Ina E. Holroyd, B. S. (K. S. A. C.).....
.....Assistant in Preparatory Department
Ambrose E. Ridenour, B. S. (K. S. A. C.).....Foreman of Foundry
Miss Emma J. Short.....Assistant in Preparatory Department
Miss Ina Cowles, B. S. (K. S. A. C.).....Assistant in Domestic Art
Miss Kate Tinkey.....Assistant Librarian
Earl N. Rodell, B. S. (K. S. A. C.).....Assistant in Printing
M. Francis Ahearn, B. S. (Mass. Ag. College)....Assistant in Horticulture
Miss Gertrude Stump, B. S. (K. S. A. C.).....Assistant in Domestic Art
M. Sheldon Brandt, Ph. B. (Yale)...Assistant in Architecture and Drawing
Chas. Yost.....Assistant in Heat and Power Department
Earle B. Milliard.....Foreman of Blacksmithing
J. T. Parker.....Assistant in Woodwork
J. D. Magee, A. M. (Chicago).....Assistant in Mathematics
E. G. Meinzer, A. B. (Beloit).....Assistant in German
Miss Florence S. Latimer, B. M. (Ferry Hall Seminary), Assistant in Music
Miss Marjorie Russell (Mechanics' Institute), Assistant in Domestic Science
Burton Rogers, D. V. M. (Iowa State College).....
.....Assistant in Veterinary Science
Miss Clara Willis (Framingham Normal)....Assistant in Domestic Science
C. O. Swanson, M. Agr. (Minn.).....Assistant Chemist, Experiment Station
Edw. C. Crowley, Ph. B. (Yale).....Assistant in Chemistry
Hugh Oliver.....Assistant in Heat and Power Department
Miss Charlaine Furley, B. A. (Fairmount).....Assistant in English
Miss Jessie Reynolds, A. B. (U. of K.), Assistant in Preparatory Department
Miss Mary F. Nesbit, A. B. (Illinois University)..Assistant in Mathematics
Miss Annette Leonard, A. B. (U. of K.).....Assistant in English
William C. Lane, B. S. (K. S. A. C.)....Assistant in Electrical Engineering
Miss Flora C. Knight, A. B. (Uni. of Wyoming).....Assistant in English
Miss Grace H. Woodward (Boston School of D. S.).....
.....Assistant in Domestic Science
Miss Nellie Cave, B. M. (Univ. of Nebr.), (Chicago Music Coll.).....
.....Assistant in Music
Miss Margaret Mack (K. S. N.).....Assistant in Preparatory Department
Edwin G. Schafer, B. S. (K. S. A. C.).....Assistant in Agronomy
Orin A. Stevens, B. S. (K. S. A. C.).....Assistant in Botany
Miss Mary W. Hancock (Mechanics' Inst.).....Assistant in Domestic Art

S. W. McGarrah, A. M. (Grove City College).....Assistant in Mathematics
Carl G. Elling, B. S. (K. S. A. C.).....Assistant in Animal Husbandry
Kirk H. Logan, B. S. (U. of K.).....Assistant in Physics
C. A. Arthur Utt, B. S. (Cornell College).....Assistant in Chemistry
Miss Florence Warner, A. B. (Illinois University).....Assistant Librarian
Miss Anna Gordon, A. B. (Iowa College).....
.....Assistant in Preparatory Department
Miss Bertha M. Johnston (Simmons College), Assistant in Domestic Science
Harrison E. Porter, B. S. (K. S. A. C.).....Assistant in Mathematics
E. L. Sieber, A. B. (Indiana University).....Assistant in Chemistry
C. S. Knight, B. S. Agr. (U. of Wis.).....Assistant in Agronomy
Earle Brintnall, B. S. (Iowa State College)..Assistant in Dairy Husbandry
J. B. Parker, M. A. (Ohio State University).....Assistant in Entomology
Allen G. Philips, B. S. (K. S. A. C.).....Assistant in Poultry
Miss Gertrude Cannon, Bethany Col. and Oberlin Conservatory.....
.....Assistant in Music
Miss Bertha Bisby.....Assistant in Preparatory Department
Fred M. Hayes, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science
L. D. Bushnell, B. S. (Wisconsin).....Assistant in Bacteriology
Miss Bertha Donaldson (Chicago University)....Assistant in Domestic Art
Miss Elizabeth Putnam (Chicago Art Institute).....Assistant in Drawing
L. E. Petty, A. B. (Wabash College).....Assistant in Mathematics
Jules C. Cunningham, B. S. (K. S. A. C.).....Assistant in Horticulture
Miss Annie E. Lindsey (Simmons College)....Assistant in Domestic Science
Miss Amy Allen, B. S. (K. S. A. C.).....Assistant in Printing
John E. Smith, B. S. (Oregon Ag. College).....Assistant in Botany
R. C. Wiley, B. S. (Oklahoma A. & M. College)....Assistant in Chemistry
D. Edmond Rudolph.....Band Leader
Porter J. Newman, B. S. (Franklin).....Assistant in Chemistry
Wm. A. Lamb.....Poultryman
Floyd Howard.....Farm Foreman



Y. M. C. A. Building.

XV.

THE EXPERIMENT STATION—THE HATCH BILL—THE ORGANIZATION OF THE EXPERIMENT STATION—THE HAYS BRANCH EXPERIMENT STATION—EARLY DAYS AT FORT HAYS—PROGRESS AT HAYS STATION—PUBLICATIONS BY THE EXPERIMENT STATION—THE TOTAL NUMBER OF BULLETINS—POSTAL PRIVILEGES—THE ADAMS ACT—RECENT WORK OF THE EXPERIMENT STATION—SEED DISTRIBUTION—ITS MISSION.

IF THERE is any section of the country that needs the painstaking assistance of the scientific agriculturist and experimenter, it is the prairie and mountain region of the West, where a climate unlike that of the older part of the United States and the civilized countries of Europe makes the selection of new crop plants and the adoption of new methods of tilling and husbanding an imperative necessity. It is natural that this necessity should have presented itself with great force to the managers of an institution founded for the purpose of educating the youth of the State for the vocation of a farmer. Experimental work in a small way, especially in the important field of forest planting, was commenced as early as 1868, and was continued, as far as the limited means permitted, by Prof. E. Gale, who for many years was the president of the State Horticultural Society. In 1874, Professor Shelton commenced a series of very valuable experiments in the cultivation of alfalfa, cow-peas, and tame grasses, continuing his observations of varieties and species under different forms of treatment up to 1889. Later, experiments were made in subsoiling, listing, feeding, etc. The results were published in the *Industrialist* and in freely-distributed annual reports. Professor Popenoe, following his predecessors in the work of horticulture, made a series of experiments in arboriculture, grape growing, and vegetable gardening. This work was carried on chiefly at the expense of the College, though during the eighties the legislature reluctantly assisted with a few paltry appropriations. In 1888, however, the work gained a new phase by the help of the general government.

THE HATCH BILL.

The passage by Congress of the "Hatch bill," in March, 1887, provided for the organization in each state of a station for experiments in lines promotive of agriculture. The legislature at once designated this College as the proper place for the station, and measures were taken for such work. It was found, however, that no appropriation had been made for carrying out the provisions of

the bill, and accordingly little could be done until February, 1888, at which time the appropriation was made.

The law, named after Senator Hatch, of Missouri, who was its framer and promoter, is as follows:

AN ACT to establish agricultural experiment stations in connection with the colleges established in the several states under the provisions of an act approved July 2, 1862, and of the acts supplementary thereto.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges, or agricultural department of colleges, in each state or territory established, or which may hereafter be established, in accordance with the provisions of an act approved July 2, 1862, entitled "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," or any of the supplements to said act, a department to be known and designated as an "Agricultural Experiment Station:" *Provided*, That in any state or territory in which two such colleges have been or may be so established, the appropriation hereinafter made to such state or territory shall be equally divided between such colleges, unless the legislature of such state or territory shall otherwise direct.

SEC. 2. That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural interests of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states or territories.

SEC. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States commissioner of agriculture to furnish forms, as far as practicable, for the tabulation of results of investigation or experiments; to indicate from time to time such lines of inquiry as to him shall seem most important; and in general, to furnish such advice and assistance as will best promote the purposes of this act. It shall be the duty of each of said stations, annually, on or before the first day of February, to make to the governor of the state or territory in which it is located a full and detailed report of its operations, including a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the commissioner of agriculture, and to the secretary of the treasury of the United States.

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the states or territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports, and the annual reports of said stations, shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the postmaster-general may from time to time prescribe.

SEC. 5. That for the purpose of paying the necessary expenses of conducting investigations and experiments, and printing and distributing the results hereinbefore prescribed, the sum of $15,000 is hereby appropriated to each state, to be specially provided for by Congress in the appropriations from year to year, and to each territory entitled under the provisions of section 8 of this act, out of any money in the treasury proceeding from the sales of public lands, to be paid in equal quarterly payments on the first day of January, April, July and October in each year, to the treasurer or other officer duly appointed by the governing boards of said colleges to receive the same, the first payment to be made on the first day of October, 1887: *Provided, however*, That out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection, enlargement or repair of a building or buildings necessary for carrying on the work of such station; and thereafter an amount not exceeding five per centum of such annual appropriation may be so expended.

SEC. 6. That whenever it shall appear to the secretary of the treasury, from the annual statement of receipts and expenditures of any of said stations, that a portion of the preceding annual appropriation remains unexpended, such amount shall be deducted from the next succeeding annual appropriation to such station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

SEC. 7. That nothing in this act shall be construed to impair or modify the legal relation existing between any of the said colleges and the government of the states or territories in which they are respectively located.

SEC. 8. That in states having colleges entitled under this section to the benefits of this act, and having also agricultural experiment stations established by law separate from said colleges, such states shall be authorized to apply such benefits to experiments at stations so established by such states; and in case any state shall have established, under provisions of said act of July 2 aforesaid, an agricultural department or experimental station in connection with any university, college or institution not distinctively an agricultural college or school, and said states shall have established or shall hereafter establish a separate agricultural college or school, which shall have connected therewith an experimental farm or station, the legislature of such state may apply in whole or in part the appropriation by this act made to such agricultural college or school; and no legislature shall, by contract, express or implied, disable itself from so doing.

SEC. 9. That the grants of moneys authorized by this act are made subject to the legislative assent of the several states and territories to the purposes of said grants: *Provided*, That payments of such installments of the appropriation herein made as shall become due to any state before the adjournment of the regular session of the legislature meeting next after the

passage of this act shall be made upon the assent of the governor thereof, duly certified to the secretary of the treasury.

SEC. 10. Nothing in this act shall be held or construed as binding the United States to continue any payments from the treasury to any or all of the states or institutions mentioned in this act; but Congress may at any time amend, suspend or repeal any or all of the provisions of this act.

Approved March 1, 1887.

As soon as the news arrived that the President had signed the above bill, the State legislature passed the following concurrent resolution:

Be it resolved by the Senate of the State of Kansas, the House concurring, That the annual appropriation of fifteen thousand dollars ($15,000), made available to the State of Kansas under the act of Congress for the maintenance of an experiment station for the benefit of agriculture, in connection with each college established under the act of Congress approved July 2, 1862, be and is hereby placed under the control of the Board of Regents of the Kansas State Agricultural College, subject to rules and regulations expressed or implied in the act of Congress above named.

Approved March 3, 1887.

THE ORGANIZATION OF THE EXPERIMENT STATION.

These enactments placed $15,000 in the hands of the Board of Regents for use during the year ending June 30, 1888, and an equal sum for the year following. The organization of the Experiment Station was at once completed and the work started. The general executive management of the Station was placed under the control of a council, consisting of the President, the professors of agriculture, horticulture and entomology, chemistry, botany, and veterinary science. Pres. Geo. T. Fairchild was made *ex-officio* chairman of the council, and Prof. E. M. Shelton director. The organic act permitted the use of one-fifth of the appropriation of the first year for building purposes. From this source the horticultural laboratory, with about twenty-four hundred square feet of propagating pits, was constructed.

Upon the resignation of Prof. E. M. Shelton, in January, 1890, the office of director was discontinued, and the clerical duties heretofore connected with that office given to the assistant secretary of the Board of Regents; but ten years later, in June, 1900, the Board of Regents went back to the original plan, reëstablished the office of director, and elected Prof. J. T. Willard, of the Chemical Department, to the position. In 1901 the newly-created chair of dairy husbandry was added to the Station staff. The experimenting force of the College in 1902 consisted of eight professors and seven assistants.

In 1894 the College, heeding the general clamor for irrigation

experiments, established an irrigation farm of about ten acres at Garden City, but two years later, after spending several thousand dollars in irrigation operations, it was decided to abandon further investigations in that quarter. A similar effort was made near Goodland, with drive-well machinery. At Garden City the water was hoisted by means of a "Jumbo" wheel, and at Goodland by means of a vertical windmill. Prof. O. P. Hood, of the Engineering Department, believing that the irrigation problem was chiefly a question of effective pumps and cheap motive power, made a series of experiments with wind motors for the purpose of testing their working results in hoisting water, but, although much of this work was done in connection with the College Experiment Station, the report was ultimately published by the U. S. Department of Agriculture.

THE HAYS BRANCH EXPERIMENT STATION.

During the closing days of the winter session of Congress in 1895 a bill was passed giving the Agricultural College half of the reservation of the abandoned Fort Hays, in Trego county, a tract of over seventy-two hundred acres of fine prairie land, for the purpose of founding a branch experiment station. The remainder of the reservation was donated the State for locating a Normal School, while a small strip of land along the town site was to form a public park. President Cleveland vetoed the bill, as he had vetoed the "deficiency bill" mentioned elsewhere, but in the winter of 1900 it was again passed, being introduced and fathered by Senator W. A. Harris (appointed as Regent of the College in 1909) and Congressman W. A. Reeder. The act reads as follows:

Be it Enacted, That the abandoned Fort Hays reservation, and all improvments thereon, situated in the State of Kansas, be and the same is hereby granted to said State upon the conditions that said State shall establish and maintain perpetually thereon, first, an experimental station of the Kansas Agricultural College; second, a western branch of the Kansas State Normal School, and in that connection therewith the said reservation shall be used and maintained as a public park:

Provided, That said State shall, within five years from and after the passage of this act, accept this grant, and shall by proper legislative action establish on said reservation an experiment station of the Kansas Agricultural College and a western branch of the Kansas State Normal School, and whenever the land shall cease to be used by said State for the purposes herein mentioned the same shall revert to the United States.

Provided further, That the provisions of this act shall not apply to any tract or tracts within the limits of said reservation to which valid claim has attached by settlement or otherwise under any public-land laws of the United States.

A few days after the passage of this act, the State legislature, then also in session, accepted the proffered grant and obligated itself to carry out its liberal conditions. The following is a copy of the act as far as it relates to the organization of the Experiment Station, sections 4, 5, 6, 7 and 8 relating to the establishment of the Branch Normal School being omitted:

SECTION 1. The Boards of Regents of the State Agricultural College and of the State Normal School, respectively, are hereby authorized to locate and establish an experimental station of the State Agricultural College and a branch or auxiliary of the State Normal School on the Fort Hays military reservation.

SEC. 2. The following described tracts of land lying within the limits of the reservation aforesaid, to wit: Section 36, township 13 S., range 19 W.; section 31, township 13 S., range 18 W.; section 1, township 14 S., range 19 W.: sections 6 and 8, the east half of section 7, the north half of section 17, and the northeast quarter of section 18, all in township 14 S., range 18 W., are hereby placed under the direction of the Regents of the State Normal School. It shall be their duty to lease or rent the said lands to the best advantage, and all moneys derived from rents for such lands shall be collected by the Regents aforesaid, who shall deposit the same with the treasurer of the Board, to be expended by said Board of Regents for the equipment and maintenance of said auxiliary of the State Normal School.

SEC. 3. All the remaining lands of the reservation aforesaid are hereby placed under the direction of the Board of Regents of the State Agricultural College, except the north half of section 5, township 14 S., range 18 W., which, with the buildings thereon, shall be used jointly as may be determined by the Boards of Regents of the institutions aforesaid.

SEC. 9. The Board of Regents of the State Agricultural College is hereby authorized to locate and establish on the reservation aforesaid an experimental station of the Agricultural College, and shall adopt such measures as may be necessary to place the same in successful operation and to preserve the land, upon which the native timber is now growing, as a public park.

SEC. 10. To carry out the provisions of section 9 of this act, the sum of three thousand dollars is hereby appropriated for the fiscal year ending June 30, 1902, and three thousand dollars for the fiscal year ending June 30, 1903.

SEC. 11. All sums of money payable out of the appropriations specified in section 8 of this act shall be upon vouchers approved by the Board of Regents of the State Normal School; all sums payable out of the appropriations specified in section 10 shall be upon vouchers approved by the Board of Regents of the State Agricultural College.

SEC. 12. The auditor of State is hereby authorized to draw his warrants on the treasurer of State for the several sums and purposes specified in this act upon verified vouchers approved by the Board of Regents of the State Normal School or the State Agricultural College: *Provided*, That no portion of the money appropriated in this act shall be expended by the Boards of Regents until the attorney-general of the State of Kansas shall first notify the governor and the Board of Regents that the title to the land in said reservation is unimpaired, and the land is available under the terms of the act of Congress ceding said reservation to the State.

SEC. 13. This act shall take effect and be in force from and after its publication in the official State paper.

Approved February 26, 1901.

Published in official State paper March 1, 1901.

The House joint resolution No. 1, accepting the abandoned Fort Hays military reservation, reads as follows:

Be it resolved by the Legislature of the State of Kansas:

SECTION 1. That the State of Kansas hereby accepts from the United States the abandoned Fort Hays military reservation, as provided in act of Congress relating thereto, approved March 27, 1900.

SEC. 2. That the provisions of the act of Congress, "An act granting to the State of Kansas the abandoned Fort Hays military reservation, in said State, for the purpose of establishing an experimental station of the Kansas Agricultural College and a western branch of the Kansas State Normal School thereon and a public park," approved March 27, 1900, are hereby accepted by the State of Kansas.

SEC. 3. That upon the approval of this act by the governor, he is requested to transmit a certified copy of the same to the secretary of the interior of the United States.

Approved February 7, 1901.

Copy transmitted to secretary of the interior February 7, 1901.

EARLY DAYS AT FORT HAYS.

The Hays Experiment Station has witnessed a wonderful transformation the past eight years. Where a few years ago, less than a generation ago, the soldier, the cowboy, the Indian and the prairie-dog were prowling over the seemingly endless short-grass prairies, there are now miles of smooth roads passing through well-tilled plats of waving grain, emerald alfalfa, bearing orchards, promising nurseries, and successful forest plantations. It used to be one of the toughest rendezvous of the unspeakably rough Kansas frontier—it is to-day a beautiful, sunny landscape of peace and good will.

A visit to the Station recalls to the old Kansan much that happened there in the days of Wild Bill and Wyoming Pete.

Fort Hays was a general outfitting point for the Indian campaigns that vexed Western Kansas from 1867 to 1878. At different times it was commanded by army officers of more than national fame. Sheridan, Hancock, Custer, Smith, Miles, Carr, Howard, and others of lesser note, were stationed there, and among the great scouts and noted characters of the plains there is scarcely one who at some time was not a sojourner at the post or town. It was from here that General Custer started his campaign after Blackkettle, and from here that General Forsythe gathered the most of his intrepid volunteers who fought the battle of the

Arickaree—that most remarkable engagement recorded in the annals of Indian war.

The flag was first thrown to the breeze at Fort Hays on July 4, 1867. But interesting as the history of old Fort Hays may be, far more interesting is the history of the town which sprang up across the creek. Originally the town was known as Rome, or at least when Hays was started there was a little settlement known by that name near by, and it gave way to the new railroad town which took the name of the fort. Rome was pioneered by W. F. Cody, better known as Buffalo Bill, and Buffalo Bill got his name at Hays or thereabouts because of his skill and industry in hunting the bison. In 1868, Bill took from Hill P. Wilson, then post trader at the fort, and later assistant secretary of state, a contract for supplying the soldiers with buffalo meat in lieu of beef, and he was a familiar figure about the post and town for a long time.

Naturally, the town of Hays, being the jumping off place for civilization, became the rendezvous for many of those wild characters who are wont to congregate on the frontier. "Wild Bill" (William Hickok), whom the writer of this history knew personally for several years, was elected sheriff of the county in 1868, but he did not serve out his term. He was chased out of the country by Lieut. Tom Custer, brother of the general, and a company of the Seventh Cavalry. Custer had ridden his horse into a billiard room one night, and then killed the horse because he would not jump on a billiard table. For this Bill arrested him and had him fined, and a few days later something like a dozen of Custer's troopers jumped on Bill in revenge. They cut him up some, but he killed two of them and wounded a couple of others, and they fled. That night, however, a whole company with their carbines and sidearms came to town in search of Bill, and he rode away in the darkness with the philosophical remark that he couldn't lick the whole Seventh Cavalry.

Besides the two soldiers who were buried at the fort, Bill added four graves to the town cemetery, which to this day is known as "Boot Hill." There were seventy-nine graves in this plot, and every one was occupied by a man who came to his death through violence, with the single exception of one, filled by a colored woman known as "Mrs. Kidd." Mrs. Kidd froze to death one night, and she was the only one in that grim burial plot whose form had not been marred by the gun, the knife, or the rope.

"Hank" Montgomery, who used to publish a paper at Hays and

later became editor of the Kansas City *Journal*, said in an article in that paper, from which some of these early reminiscences are excerpted, that there is no authentic record of the "killings" made in Hays in the early days. Judge Jimmy Joyce, of Hays, once published the statement that he had traced up 165 violent deaths in the town or its immediate surroundings. Of these he placed the number killed by Indians at only eighteen, while all the rest were stabbed or shot or hung. Judge Joyce himself was a noted western character. At the organization of the county he had been appointed justice of the peace, and he continued to hold the office for a number of years. Many of his decisions are famous. He allowed no appeals from his court. He granted divorces and performed other functions not lodged in the office which he held. He finally set out to usurp the functions of United States district judge, and then came to grief, and also to Leavenworth, where his friends had some difficulty in releasing him from the pen.

Mr. Montgomery used to tell the following characteristic "western" story on Judge Joyce:

"In 1870 the contractors' firm of Comstock & White were doing business at the fort. In the course of a quarrel Comstock killed White. White had a brother in New York, a lawyer, who came out to visit the law upon his brother's slayer. Comstock was arrested and brought before Judge Joyce at Hays City. The prisoner walked into the court room (Judge Joyce's saloon) with two big six-shooters belted to his hips.

"'Misther Comstock, ye are charged with wilful murther. Are ye guilty or not guilty?' asked the judge.

"'Guilty!' was the laconic response.

"This was entirely beyond Judge Joyce's calculations. He had no precedent for such a case, and no power or inclination to visit a penalty, and so, with great indignation, he shouted:

"'Ye are a fool for tellin' it! Did any wan see ye do it?'

"'No,' was the prisoner's response.

"'Thin Oi discharge ye fer want of ividence!' declared his honor. Imagine the feelings of Mr. White, of New York, who had come to avenge his brother's slaying!"

But that civilization was swept away by the advent of the U. P. railroad, the plow, and the shorthorn steer. The buildings of the old fort are nearly all demolished, and the city of Hays is one of the jewels of the Kansas prairie country. The six shooter of the cowboy has given way to the microscope of the college professor.

PROGRESS AT HAYS STATION.

At one time the reservation was supposed to be open for settlement, and much of the land was filed upon and occupied. When the State accepted the reservation these claims constituted a flaw in the title. To remove this, the Board executed leases to the claimants running from three to five years, in consideration of which all further claim was relinquished.

The plans for managing the branch station are shown in the following resolutions, adopted by the Board December 13, 1901:

Resolved, That the president of the Board of Regents shall appoint a Regent, who shall, under the direction of the Board, have special charge of all matters pertaining to the Fort Hays reservation in behalf of the Agricultural College, the Experiment Station Council to direct all experiments, subject to the approval of the Board.

Resolved, That the crop experiments and such other experiments as can be provided for be begun in the year 1902 on as liberal a scale as circumstances and the funds at our command permit; and that all seeding, cultivation, harvesting, storing, sale and purchase of commodities, or of live stock and its feeding, pertaining to experimental work, and all records in reference thereto, be under the immediate supervision and direction of a competent man, who shall be stationed at Hays so much of the time as may be necessary for best doing the work contemplated.

Resolved, That such repairs be made upon the buildings on the Fort Hays reservation as shall make them available for use, and that a practical farmer be employed, who shall be known as foreman of the farm, and who shall see that all contracts pertaining thereto are fulfilled and all property belonging to the Experiment Station be properly cared for, and shall perform such other duties as shall be assigned to him.

Resolved, That the Regent appointed to have charge of the interests of the Experiment Station at Hays shall be paid his per diem and actual and necessary expenses incurred in the performance of such duties, but shall not be allowed mileage.

J. G. Haney, a graduate of the College, for several years assistant in field and feeding experiments and later agricultural agent of the Chihuahua & Pacific Railway Company, was appointed superintendent of the branch station. He entered upon his duties March 29, 1902, as soon as the title to the reservation was reported clear by the attorney-general, and such experiments as could be made on sod were started at once.

The part of the reservation secured by the Agricultural College was the one to the east, which has the greater diversity of location, quality, etc. The land proved to be of good quality, and, with the exception of the immediate bed of the creek, is all tillable.

At the time work was begun there were no improvements nor equipment of any kind on the land. The fort had been abandoned more than fifteen years; fully half of the buildings were gone

entirely, and what remained were in a very dilapidated condition. The appropriation available was used in breaking out nearly a section of land, building seven miles of fence to close the numerous roads that radiated from Hays on the south side, and also in the purchase of some necessary implements and a saddle pony.

After the 1902-'03 appropriation was available four buildings were moved from the site of the old fort about a half-mile southeast to the location chosen for the Station buildings. These were fitted up for a barn, tool-shed, granary, and dwelling. In the fall of 1902 one team was bought for use on the Station. All team work had been hired up to this time, and it was still necessary to engage considerable help in gathering the feed grown on sod and put in 200 acres of wheat.

The legislature of 1903 was liberal in appropriations. A total of $32,550 was obtained from the State for the succeeding two years, $10,000 being made available on adjournment of the legislature for current expenses, teams, and equipment. With this fund the Station fenced about eight hundred acres of farm and prairie land, erected a number of sheds, a barn, and a boarding-house, dug a well, and bought an additional team and a lot of implements.

PUBLICATIONS BY THE EXPERIMENT STATION.

Since its organization the Experiment Station has issued one hundred fifty-seven bulletins and twenty annual reports, the former containing current matter of general interest to farmers, horticulturists, and stockmen, while the latter include data of all completed experiments, with brief references to those still in progress. All bulletins and reports are distributed free to those who apply for them. The usual edition of the earlier bulletins was seventy-five hundred copies, but the general demand for information on certain subjects has required much larger editions of late. During the past half-dozen years the number of applicants has increased so that many editions have run short with forty or forty-five thousand copies. The following is a list of the bulletins issued thus far. The titles give a fair index to the range and character of the investigations carried on by the different departments:

1888—No. 1. Organization, Equipment, and Aims.
No. 2. Experience with Cultivated Grasses and Clovers.
No. 3. Life-History of two Orchard Pests.
No. 4. Experiments with Wheat.
No. 5. Sorghum and Sorghum Blight.
1889—No. 6. Silos and Ensilage.
No. 7. Experiments with Wheat.

1889—(Concluded).
No. 8. Preliminary Report on Smut in Oats.
No. 9. Experiments in Pig Feeding.
1890—No. 10. Notes on Conifers for Kansas Planters.
No. 11. Experiments with Wheat.
No. 12. Preliminary Experiments with Fungicides for Stinking Smut of Wheat.
No. 13. Experiments with Oats.
No. 14. Winter Protection of Peach Trees, and Notes on Grapes.
No. 15. Additional Experiments and Observations on Oat Smut, made in 1890.
No. 16. Experiments with Sorghum and Sugar Beets
No. 17. Crossed Varieties of Corn, Second and Third Years.
No. 18. Experiments with Forage Plants.
No. 19. Germination of Weeviled Peas—Garden Notes on Potatoes, Beans, and Cabbage.
1891—No. 20. Wheat.
No. 21. Stinking Smut of Wheat.
No. 22. Smut of Oats; Smut and Rust of Wheat.
No. 23. Smut of Sorghum and Corn.
No. 24. Staggers of Horses.
No. 25. Sorghum for Sugar.
No. 26. Varieties of the Strawberry.
No. 27. Crossed Varieties of Corn.
No. 28. The Experimental Vineyard.
No. 29. Oats.
No. 30. Corn.
No. 31. Sugar Beets.
No. 32. Feeding Stuffs, and the Development of Grain Crops. Soy-Beans.
1892—No. 33. Experiment with Wheat.
No. 34. Experiments in Feeding Steers.
No. 35. *Actinomycosis bovis*, or "Lumpy Jaw" of Cattle. Some Observations upon Loco.
No. 36. Experiments with Sorghum and with Sugar Beets.
No. 37. Experiments in Potato Culture.
1893—No. 38. Preliminary Report on Rusts of Grain.
No. 39. Experiments in Feeding Steers, II.
No. 40. Experiments in Wheat.
No. 41. Effect of Fungicides upon the Germination of Corn.
No. 42. Experiment with Oats.
No. 43. Experiments with Sorghum and Sugar Beets.
No. 44. Further Study of Native Grapes.
No. 45. Experiments with Corn.
1894—No. 46. Rusts of Grain, II.
No. 47. Experiments with Wheat. Experiments in Feeding Steers, III.
No. 48. Six Years' Experience with Ensilage. Some Forage Plants. Renovating a Prairie Pasture.
1895—No. 49. Cattle Poisoning by Potassium Nitrate. Mastitis.
No. 50. Kansas Weeds, I—Seedlings.
No. 51. Steer Feeding, IV—A Comparison Between Pure-Bred Shorthorns and Scrubs.
No. 52. Kansas Weeds—Preliminary Circular on Distribution.

1895—Concluded).
No. 53. Pig-Feeding Experiments with Corn, Wheat, Kafir-Corn, and Cottonseed.
No. 54. Experiments with Oats.
No. 55. Small Fruits by Irrigation. Culture of Strawberries.
No. 56. Experiments with Corn. Experiments with Kafir-Corn.
1896—No. 57. Kansas Weeds, III—Descriptive List.
No. 58. Cornstalk Disease of Cattle.
No. 59. Experiments with Wheat.
No. 60. Steer-Feeding Experiments, Series V.
No. 61. Kafir-Corn, Corn and Soy-Bean Meal for Pigs. Kafir-Corn and Corn-Meal for Cattle.
No. 62. Corn-Smut.
No. 63. Experiments with Oats.
No. 64. Experiments with Corn.
1897—No. 65. Grafting the Apple.
No. 66. Kansas Weeds, IV—Fruits and Seeds.
No. 67. Steer Feeding, VI.
No. 68. Soil Moisture.
No. 69. Some Diseases of Cattle.
No. 70. Vegetable Growing.
No. 71. Experiments with Wheat.
No. 72. Growth of Young Stock.
No. 73. Miscellaneous Fruit Notes.
No. 74. Experiments with Oats.
No. 75. Root Development of Forage Plants.
1898—No. 76. Kansas Weeds, V—Vegetative Propagation.
No. 77. Some Insects Injurious to the Orchard.
No. 78. Sugar Beets.
No. 79. Bovine Tuberculosis.
No. 80. Kansas Weeds, VI—Distribution and Other Notes.
1899—No. 81. Feed and Care of the Dairy Cow.
No. 82. The Potato-Stalk Weevil.
No. 83. Sugar Beets.
No. 84. Cold Storage for Fruit.
No. 85. The Growth of Alfalfa in Kansas.
No. 86. Press Bulletins Nos. 1 to 34.
No. 87. Native Agricultural Grasses of Kansas.
No. 88. Keeping Milk in Summer.
No. 89. Soil Moisture.
1900—No. 90. Alfalfa in Eastern Kansas.
No. 91. Swine-Plague.
No. 92. A New Drought-Resisting Crop—Soy-Beans.
No. 93. Kafir-Corn.
No. 94. Sugar Beets, 1899. The Station Publications.
No. 95. Fattening Hogs with Drought-Resisting Crops.
No. 96. Soil Inoculation for Soy-Beans.
No. 97. Skim-Milk Calves.
No. 98. Some Scale-Insects upon Kansas Grasses.
1901—No. 99. Press Bulletins Nos. 35 to 70.
No. 100. Soy-Beans in Kansas in 1900.
No. 101. Notes from the Plum Orchard.

1901—(Concluded).
No. 102. Forage Plants for Kansas.
No. 103. Digestion Experiments with Kansas Feeds. Sugar Beets in Kansas, 1891 to 1900.
1902—No. 104. Fall Seeding of Alfalfa.
No. 105. Blackleg in Kansas.
No. 106. The Experimental Apple Orchard.
Mo. 107. Analyses of Corn, with Reference to its Improvement.
No. 108. The Hardy Catalpa.
No. 109. Spontaneous Combustion of Alfalfa.
No. 110. Grapes.
1903—No. 111. Quality in Beef.
No. 112. Fattening Steers Without Hogs to Follow.
No. 113. Baby Beef.
No. 114. Growing Alfalfa in Kansas.
No. 115. The Exact Calculation of Balanced Rations.
No. 116. Destroying Prairie-Dogs and Pocket-Gophers.
No. 117. Bacteria of the Soil.
No. 118. Flesh and Fat in Beef.
1904—No. 119. Press Bulletins Nos. 71 to 124.
No. 120. Tests of Forest Trees.
No. 121. Treatment and Utilization of Flood-Damaged Lands.
No. 122. Blackleg and Vaccination.
No. 123. Crop Experiments in 1903.
No. 124. Experiments in Feeding Steers and in Breeding and Feeding Pigs.
No. 125. Experiments with Dairy Cows.
No. 126. Experiments with Hand-Fed Calves.
No. 127. The Roots of Plants.
No. 128. Fort Hays Branch Experiments, 1902-'04.
No. 129. Kansas Mammals in Their Relation to Agriculture.
1905—No. 130. Steer Feeding Experiment, VII, 1903-'04.
No. 131. Care of Dairy Utensils.
No. 132. Western Feeds for Beef Production.
No. 133. Alfalfa Seed: Its Adulterants, Substitutes and Impurities and Their Detection.
No. 134. The Alfalfa Seed Crop and Seeding Alfalfa.
1906—No. 135. Grading Cream.
No. 136. Press Bulletins (Collection 125 to 151).
No. 137. Variations in the Test of Separator Cream.
No. 138. Fact of Bacteria in Wash Water of Butter.
No. 139. The Study of Corn.
1907—No. 140. Milking Machines.
No. 141. Commercial Seeds of Brome-Grass, and of English and Kentucky Blue-Grasses: Adulterants and Substitutes and Their Detection.
No. 142. The Value of Oil Road Improvement.
No. 143. Disposal of Dairy and Farm Sewage, and Water-Supply.
No. 144. Small Grain Crops.
No. 145. Spraying.
No. 146. Kansas Law Regulating the Sale of Concentrated Feeding Stuffs.
No. 147. Indian Corn.

1907—(Concluded).
No. 148. Kansas Law Regulating the Sale of Commercial Fertilizers.
No. 149. Prevention of Sorghum and Kafir-Corn Smut.
No. 150. The Hen's Place on the Farm.
No. 151. Alfalfa Breeding: Materials and Methods.
1908—No. 152. The Pocket-Gopher.
No. 153. Deterioration of Red Texas Oat in Kansas.
No. 154. The Mound-Building Prairie Ant.
No. 155. Alfalfa.
No. 156. The Yellow Berry Problem in Kansas Hard Winter Wheats.
No. 157. Studies on Hog-Cholera and Preventive Treatment.

THE TOTAL NUMBER OF BULLETINS.

The total number of bulletins and reports distributed by the Experiment Station during the twenty years of its existence reaches three million copies, and the demand for them is constantly increasing—a fact that speaks as well for the farmers of the State as it does for the work of the College. Several of the bulletins were reprinted by creamery companies and manufacturers of agricultural machinery for free distribution among their patrons. Professor Cottrell's bulletin (No. 81), "Feed and Care of the Dairy Cow," has been used as a text-book in feeding by several other agricultural colleges. Yet, much of the work of the Experiment Station has not been published, because nearly all field or garden experiments require the corroboration of several seasons before the results can be trusted, and many experiments are discontinued for one reason or another before they have produced tangible results. In a laboratory experiment the manipulator can control the conditions to such an extent that single tests will usually determine the existence or non-existence of an anticipated fact; but in the field the ever-varying conditions of rainfall, wind, frost, drought, insect pests, rusts, etc., can not be controlled or eliminated so as to give in a single season all the required data for the conclusions sought.

The Agricultural College, through its Experiment Station, has not only become the accepted Kansas clearing-house for new methods and theories in farming, horticulture, stockraising, and dairying, but it has contributed much toward the actual introduction and spread of better grains, grasses, vegetables, forest trees, ornamental plants, etc. Its picturesque exhibits of grasses, alfalfa hay and Jerusalem corn at the big fairs in Bismark park, near Lawrence, twenty years ago, and its large displays of alfalfa, grains, grapes, and vegetables, at the State fairs in Topeka and Hutchinson were inspirations to thousands of farmers all over the West. The introduction in Kansas of the soy-bean, the red Kafir-

corn, and many other drought-resisting crops, is the direct work of the Kansas State Agricultural College.

POSTAL PRIVILEGES.

A great help in the work of the Experiment Station has been the franking privilege for its bulletins. The publications of the Station are transmitted free by the United States Post-Office Department. The following are the postal regulations in force since August 30, 1890:

(1) Any claimant of the privilege must apply for authority to exercise it to the postmaster-general, stating the date of the establishment of such station, its proper name or designation, its official organization and the names of its officers, the name of the university, college, school or institution to which it is attached, if any, the legislation of the state or territory providing for its establishment, and any other granting it the benefits of the provision made by Congress as aforesaid (accompanied by a copy of the act or acts), and whether any other such station in the same state or territory is considered, or claims to be, also entitled to the privilege; and also the place of its location and the name of the post-office where the bulletins and reports will be mailed. The application must be signed by the officer in charge of the station.

(2) If such application be allowed after examination by the department, the postmaster of the proper office will be instructed to admit such bulletins and reports to the mails in compliance with these regulations, and the officer in charge of the station will be notified thereof.

(3) Paragraph 3, section 419, Postal Laws and Regulations 1887, is hereby amended so as to read as follows:

"Only such bulletins or reports as shall have been issued after the station became entitled to the benefits of the act can be transmitted free, and such bulletins or reports may be inclosed in envelopes or wrappers, sealed or unsealed. On the exterior of every envelope, wrapper, or package must be written or printed the name of the station and place of its location, the designation of the inclosed bulletin or report and the word 'Free' over the signature or facsimile thereof of the officer in charge of the station, to be affixed by himself, or by some one duly deputed by him for that purpose. There may also be written or printed upon the envelope or wrapper a request that the postmaster at the office of delivery will notify the mailing station of the change of address of the addressee, or other reason for inability to deliver the same, and upon a bulk package a request to the postmaster to open and distribute the 'franked' matter therein, in accordance with the address thereon.

"Bulletins published by the U. S. Department of Agriculture and analogous to those of the station, and entitled to be mailed free under the penalty envelope of that department, may also be adopted and mailed by the several stations, with their own publications, under the same regulations, and any bulletins or reports mailable free by any agricultural experiment station under these regulations may be so mailed by any other station having free mailing authority.

"If such station's annual reports be printed by State authority, and consist in part of matter relating to the land grant college to which such sta-

tion is attached, then said report may be mailed free entire by the director of the station; provided, in his judgment, the whole consists of useful information of an agricultural character."

The Post-Office Department has recently ruled that "in sending out bulletins from an agricultural experiment station it is permissible to inclose postal cards to enable correspondents of the station to acknowledge the receipt of its publications and to request their continuous transmission."

(4) The bulletins may be mailed to the stations, newspapers, or persons to whom they are by the foregoing act authorized to be sent, and the annual reports to any address within the United States.

THE ADAMS ACT.

The extensive work of the Experiment Station, especially during the last decade, has gradually made it an important department of the College. The heads of nine science departments of instruction in the College are also put in charge of the several departments of investigation of the Station, and to a certain extent assistants serve in both capacities. The Experiment Station, therefore, is not at present definitely localized at the institution, but its work and property are more or less woven in with that of the College. The expenses of the Experiment Station work are separately accounted for, however, and its property is listed in separate inventories. While this arrangement involves some difficulties, it also possesses many advantages—advantages which are mutual. The College work profits by having the investigations of the Station going on alongside. The Station profits in that it thus obtains, without charge, the use of the College farm, buildings, heat, light, various collections, museums, and in some cases apparatus. As already stated, the expenses of the Experiment Station are met by an appropriation by Congress of $15,000 per annum, which sum has been increased by the Adams act, of 1906. That year $5000 was paid. This amount is increased $2000 per year till the total becomes $15,000. The aims of the Station may be said to be twofold—those which lead to immediate returns, and those the object of which can be reached only after a series of years. Experiments of the greatest value are often of the latter kind, but if the work of the Station were limited to such, the public would feel that nothing is being accomplished. It is the intention of the Station force to make all of its experiments practical, in the sense that they lead to results which, indirectly if not directly, benefit the agricultural interests of the country.

The so-called Adams bill was introduced in Congress by Representative Adams, of Wisconsin, December 4, 1905, and was passed in the following February. Following is a copy of the act as it was passed:

AN ACT to provide for an increased appropriation for agricultural experiment stations and regulating the expenditure thereof.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress Assembled*, That there shall be, and hereby is, annually appropriated, out of any money in the treasure not otherwise appropriated, to be paid as hereinafter provided, to each state and territory, for the more complete endowment and maintenance of agricultural experiment stations now established or which may hereafter be established in accordance with the act of Congress approved March second, eighteen hundred eighty-seven, the sum of five thousand dollars in addition to the sum named in said act for the year ending June thirtieth, nineteen hundred six, and an annual increase of the amount of such appropriation thereafter for five years by an additional sum of two thousand dollars over the preceding year, and the annual amount to be paid thereafter to each state and territory shall be fifteen thousand dollars, to be applied only to paying the necessary expenses of conducting original researches or experiments bearing directly on the agriculture industry of the United States, having due regard to the varying conditions and needs of the respective states and territories.

SEC. 2. That the sums hereby appropriated to the states and territories for the further endowment and support of agricultural experiment stations shall be annually paid in equal quarterly payments on the first day of January, April, July and October of each year by the secretary of the treasure, upon the warrant of the secretary of agriculture, out of the treasury of the United States, to the treasurer or other officer duly appointed by the governing boards of said experiment stations to receive the same, and such officers shall be required to report to the secretary of agriculture on or before the first day of September of each year a detailed statement of the amount so received and of its disbursements, on schedules prescribed by the secretary of agriculture. The grants of money authorized by this act are made subject to legislative assent of the several states and territories to the purpose of said grants: *Provided*, That payments of such installments of the appropriation herein made as shall become due to any state and territory before the adjournment of the regular session of legislature meeting next after the passing of the act shall be made upon the assent of the governor thereof, duly certified by the secretary of the treasury.

SEC. 3. That if any portion of the moneys received by the designated officer of any state or territory for the further and more complete endowment, support, and maintenance of agricultural experiment stations as provided in this act shall by any action or contingency be diminished or lost or be misapplied, it shall be replaced by such state or territory to which it belongs, and until so replaced no subsequent appropriation shall be apportioned or paid to such state or territory; and no portion of said moneys exceeding five per centum of each annual appropriation shall be applied directly or indirectly, under any pretense whatever, to the purchase, erection, preservation, or repair of any building or buildings, or to the purchase or rental of land. It shall be the duty of each of said stations annually, on or before the first day of February, to make the governor of the state or territory in which it is located a full and detailed report of its operations, including a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the secretary of agriculture, and to the secretary of the treasury of the United States.

SEC. 4. That on or before the first day of July in each year after the

passage of this act the secretary of agriculture shall ascertain and certify to the secretary of the treasury as to each state and territory whether it is complying with the provisions of this act and is entitled to receive its share of the annual appropriation for agricultural experiment stations under this act and the amount which thereupon each is entitled, respectively, to receive. If the secretary of agriculture shall withhold a certificate from any state or territory of its appropriation, the facts and reasons thereof shall be reported to the president and the amount involved shall be kept separate in the treasury until the next Congress is in order, that the state or territory may, if it shall so desire, appeal to Congress from the determination of the secretary of agriculture. If the next Congress shall not direct the sum to be paid, it shall be covered into the treasury; and the secretary of agriculture is hereby charged with the proper administration of the law.

SEC. 5. That the secretary of agriculture shall make an annual report to Congress on the receipts and expenditures and work of the agriculture experiment station in all of the states and territories, and also whether the appropriation of any state or territory has been withheld; and if so, the reason thereof.

SEC. 6. That Congress may at any time amend, suspend or repeal any or all of the provisions of this act.

RECENT WORK OF THE EXPERIMENT STATION.

In July, 1908, Dr. C. W. Burkett, who had been director of the Experiment Station for two years, left to accept the more remunerative position of editor-in-chief of the Orange Judd Publishing Company, of New York, and Vice-Director Dr. J. T. Willard became once more acting director, till in December, 1908, he was relieved by the election of Prof. Ed. H. Webster, M. S., chief of the Dairy Division of the Department of Agriculture, Washington, D. C. A biographical sketch of Professor Webster will be found in this chapter. Among the special work of Doctor Burkett may be mentioned his trip, in the summer of 1907, to Turkey and southern Russia for the purpose of studying the methods of the European wheat farmers, the qualities of the wheat raised in those countries, and of making arrangements for the purchase of large quantities of seed wheat for the wheat growers of Kansas. The trip was made in response to an act of the legislature, approved March 9, 1907, appropriating $2500 for the purpose. A similar trip was made by Prof. A. M. TenEyck, who went to Alberta, Canada, and by Prof. H. F. Roberts, who in the following year visited the Danube countries, Italy, and Germany. These trips, however, were practically without results because conditions did not allow time enough to procure, import and distribute the seed wheat between the harvests in Europe and the time of sowing wheat in Kansas.

There was, however, much improved Kansas seed distributed during the past four years. The Agronomy Department

sold, practically at cost, nearly 4000 bushels of such seed of the best producing varieties of winter wheat, 1500 bushels of seed-corn, 800 bushels of seed oats, 550 bushels of seed barley, and smaller quantities of emmer, rye, flax, millet, cow-peas, soy-beans, Kafir-corn, broom-corn, sorghum, etc., or a total of about 7500 bushels. This does not include the seed distributed by the Ft. Hays Branch Experiment Station, which during the same interval distributed nearly as much seed wheat and several hundred bushels of seed-corn, Kafir-corn, and other seed-grains. Most of the seed which was distributed was simply purified samples of some of the best producing varieties as shown by the experimental tests, but even this seed was far superior to the average seed grown in the State, as shown by the comparative tests at the Station and by the reports of farmers. For instance, as reported in Bulletin 144, one of the improved varieties of winter wheat on the College farm actually produced a net profit of over twenty dollars ($20) per acre in three years above that produced by common "scrub" wheat, of the same type, and similar results were secured with oats, barley, etc.

With corn, Kafir-corn and sorghum, greater improvement was accomplished than with small grains, since with these crops careful selection and breeding of seed was practiced with certain varieties which had proven most worthy, as shown by the variety test. The Agronomy Department is now breeding by the "head-row" method ten varieties of corn, two varieties of Kafir-corn, four varieties of sorghum, and one variety of milo maize, and much of the seed of these varieties was really pedigreed seed, or the product of selected ears or heads taken from the highest producing ear-test rows. (See Bulletin 147 on Corn Breeding.)

Special mention should be made of the work of the Department of Botany in seed breeding for the improvement of varieties of wheat and alfalfa. Prof. Herbert F. Roberts has done and is doing more extensive and scientific work in these lines than any other investigator in the country, and the College has the best collection of seeds for the purpose of comparing varieties outside of Washington, D. C. Professor TenEyck is carrying on a variety of tests of soils, of fertilizers, and methods of cultivation, and has done much work in improving corn and grains. The Veterinary Department is investigating moulds and smuts and their effect on stock. It is also making investigations of contagious diseases, such as hog-cholera, tuberculosis, and abortion. The Chemistry Department is investigating the protein contents of alfalfa in its various stages of growth. It is also making analyses

of feeds, milling tests, and hatching tests. The work of the Horticulture Department has been much broadened by an act of the legislature, passed in February, 1909, turning over to the College all the former experimental State plantations of forest trees at Ogallah and Dodge, and by the establishment of a State forester's office at the College. The Regents at their April meeting of the present year have elected Prof. Albert Dickens, of the Horticulture Department, to fill this important office. It is not possible to mention here the many lines of scientific and practical investigations carried on by the different investigators of the staff of the Experiment Station.

DIRECTOR ED. H. WEBSTER.

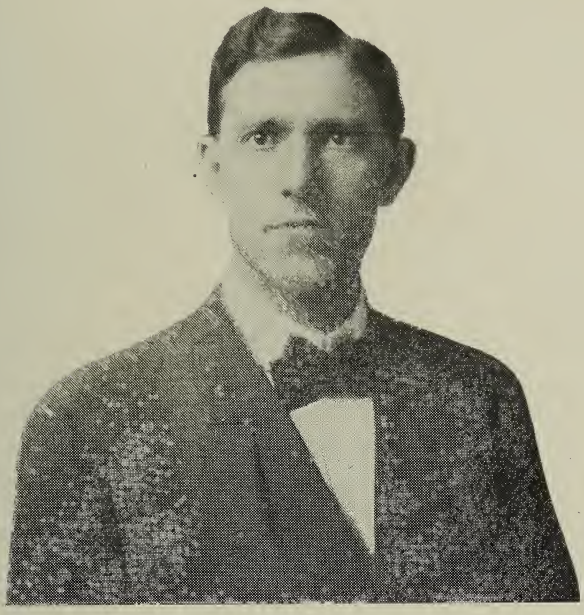
Ed. H. Webster, M. S., the present director of the Experiment Station, is a graduate and postgraduate of the Kansas State Agricultural College. He entered the freshman class in 1889, remained one year, then worked on the parental farm two years, then reëntered again and continued for four years, graduating in 1896 with the degree of B. S. The last three years he specialized in lines of mechanical engineering and was compelled by circumstances to earn his way by working in the shops.

During the fall and winter of 1896 he worked in Chicago with the Aermotor Company in their experimental department. He then entered the Central Business College at Sedalia, Mo., and later accepted a position in Denver, Colo., with the school for poor boys. He then returned to the Kansas State Agricultural College as a postgraduate student and began work in dairying. From here he accepted a position as helper in a creamery at Meriden, Kan., at $25 a month, but kept up his work at the College as a postgraduate student. He had then fully made up his mind that practical experience must be gained before success can be achieved, and in taking up work with this creamery company he did so with the understanding that he was to be placed in a position where he could gain experience, regardless of what the salary might be.

In the fall of that year the creamery company sent him to Ames, Iowa, for the special course in dairying that was offered at that time. He remained there about four weeks at the expense of the company and returned to the Meriden creamery as head man, with a salary of $75 a month. The next ten months brought about a complete change in the organization of the company, headquarters being removed to Kansas City and consolidated with other creameries.

From here he went to Iowa State Agricultural College for the purpose of completing the agricultural course and at the same time earning his way as a dairy assistant. He had charge of the details of the business management of the college creamery, taught classes, and was given the degree of B. Ag., in June, 1901.

About this time the Continental Creamery Company of Topeka,



Director Ed. H. Webster.

Kan., was looking for a man to take charge of the expert work in their factory, and Mr. Webster was employed at $100 a month. In less than four weeks he was made general superintendent in charge of all the buttermaking operations, which produced per day twenty to thirty thousand pounds of the "Meadow Gold."

In the meantime various changes in the division of work and the personnel of the Faculty at the Kansas State Agricultural College had occurred, and the Board of Regents created a Dairy Department. A special committee of the Regents came to Topeka and insisted that the Continental Creamery Company release him, which was finally done, and he came to Manhattan as assistant professor in dairying in full charge of the Dairy Department, September 15, 1901, remaining here till March, 1903. The last few months his title had been changed to professor.

In the winter of 1902, Prof. R. A. Pierson, assistant chief of the Dairy Division at Washington, D. C., resigned, and examinations were offered by the Civil Service Commission to secure a register of names from which a new assistant chief could be selected. At the same time the Civil Service Commission offered an examination for inspector of renovated butter factories. Mr. Webster took both of these examinations. Amongst those who were competitors were Prof. D. H. Otis and E. H. Farrington, now of the University of Wisconsin, Prof. Oscar Erf, now of the University of Ohio, Prof. A. L. Haecker, of the University of Nebraska, Prof. C. B. Lane, then of the Agricultural College of New Jersey, and Professor Hayward, now director of the Experiment Station of Delaware. Mr. Webster had the good fortune to stand second in the examination for assistant chief against all of this competition. About this time there had been a demand made on Secretary Wilson for some research work in Kansas, along the lines of pasteurization and shipping of cream, and it was decided to offer Mr. Webster this work. He was given his choice of going to Washington as assistant chief in the Division, or assuming responsibilities in the other field. He chose the latter at a salary of $2000 per year and began work for the department on April 1, 1903.

During the course of this work, the results of which have been published in a bulletin by the Dairy Division, he came in constant contact with many things in relation to the centralizing of the creamery business, and found that it was practically impossible for him at that time to get the facts desired. He told the secretary frankly of the condition of things, and accepted, in January, 1904, the position as company superintendent of the Littleton Creamery Company, in Denver, Colo. During that year Major Henry Alvord died in St. Louis while on duty connected with the awarding of prizes at the World's Fair. This left a vacancy at the head of the Dairy Division in Washington, and Mr. Webster, when making a Christmas visit at Randolph, Kan., with the parents of his wife, received a telegram from the capital that he had been appointed chief of the Division and that he should proceed to Washington at once.

The professor modestly stated to the writer of these paragraphs that there was probably a good deal of disappointment on the part of some parties over his selection, as he was practically unknown outside of Iowa, Kansas and Colorado at that time. His previous experience as an agent for the Division had not impressed him strongly with the desirability of a government position, and it was well known that the work of the Division, up to that time, had

been practically that of an editorial bureau, carrying on little, or no investigations, and that the work of the Division was discredited to a large extent by the dairymen of the country.

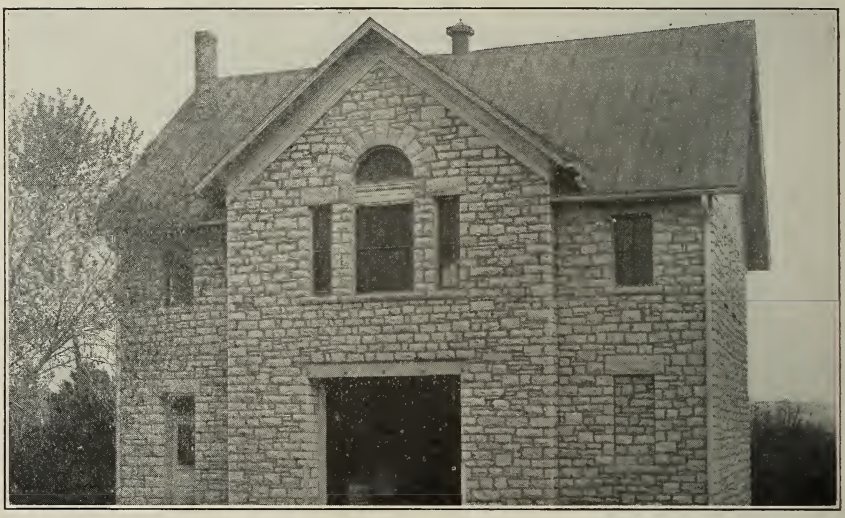
But he went to Washington, D. C., in January, 1905, to assume the duties of the office, with Mr. Lane as assistant, determined to do his best. One stenographer and two clerks were in the office, four men were employed annually as inspectors of renovated butter factories, and three or four employed on a per diem basis for similar work. He found a number of other things that were somewhat of a surprise to him. One was that the chief of the Division had, in times past, been expected to spend a good deal of his time in other work, probably because it was thought by those in charge that there was not enough work in dairying to keep one man busy.

His first work, after learning some routine of government red tape, was to look about and see what the great problems in dairying were that might be taken up by the Department. The first month he was hunting for work to keep himself busy, but before the end of the year he had added several men to the office force who were taking special lines of work. In a very short time the tables turned and he was hunting for men and money to do the work that waited to be done.

On leaving the office, December 22, 1908, there were on the rolls of the Dairy Division seventy-five regular employes devoting all their time to investigation, education, and office work. Appropriations for the office had increased from the sum of less than $20,000 the first year to $140,000 for the year ending June, 1909. This great growth of the work of the Division was due mainly to the fact that there was a great need for development along dairy lines and that few mistakes were made in the selection of men to carry out new lines of work. Every man in the Dairy Division was impressed with the fact that his success depended upon his own efforts, and that he would get full credit for all that he could accomplish. There was always a spirit of hearty coöperation between the various offices of the Division, and when it came to actually making the change from the Dairy Division back to the College at Manhattan the pleasant associations there with the employes of the Division made it hard for him to give up that work. He felt, however, that as far as he was personally concerned he had secured nearly all of the experience that could be gained in that position. The opportunity came for him to take up the work of dean and director in the Kansas State Agricultural College and he felt that it should not be turned down.

A year previous to that time the Regents of the College had,

without consulting him, elected him professor of dairying. They based their action on a chance suggestion that he made to one of the members of the Faculty, never expecting that they would take action until they had consulted with him themselves. He could not at that time see his way clear to take up dairy work other than he was doing in Washington. The situation, however, was quite different when he was offered the position as dean and



Seed House.

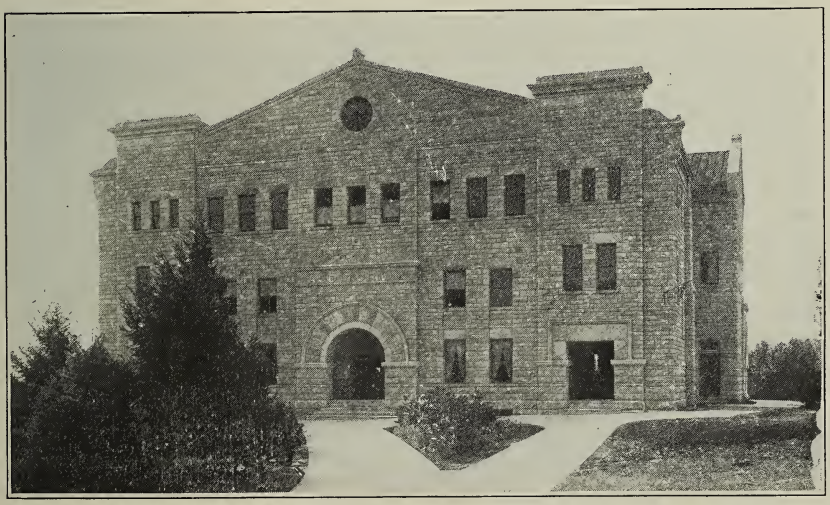
director of the Station and Agricultural Department of the College. This line of work opens up a field of great opportunities for future growth and development.

ITS MISSION.

The Experiment Station has a great mission to perform, broader than that of solving the scientific problems relating to applied plant life and animal life. It must ultimately concern itself, too, with the life problems of the farmer and his family. In a recent address by Doctor True on "The Broad Outlook of the Agricultural Experiment Stations," he declared that the proper field of the experiment station lies along educational lines and that it must be filled for the benefit of the village and urban residents as well as the farmers. He said:

"With their existing financial limitations, the stations have properly given their attention principally to the needs of our large agricultural industries, but they have also done much which is of use to village and city people, and they will undoubtedly enlarge

their work in this direction as time goes on and funds increase. The farmers need have no fear that the stations will forget them or neglect their interests, but should rather rejoice that in the stations they have a powerful agency for bringing city people into closer sympathy with rural people. Already the work of the stations has created an entirely new agricultural literature, and . . . laid the foundations for a sound agricultural pedagogy, and . . . they must ever supply the new materials by which the courses can be strengthened and improved. But their work has a far more fundamental and far-reaching purpose; namely, to make agriculture a progressive industry and the masses of agricultural workers progressive men. Many plans for rural improvement have been made by philanthropists and statesmen, but they have largely been failures because they were imposed on the unwilling minds and hearts of unprogressive people. But if the rural people themselves awake and make their plans of improvement we may surely expect wonderful things. As an arouser of desire for improvement and a stimulator to intelligent effort to make the country a better place to live and work in, the agricultural experiment station has its chief importance and its highest mission. And it is for this service that the stations especially commend themselves to all the friends of rural progress, for if these fountains of new knowledge are kept strong and pure their waters will spring up forever to replenish the life of countless generations of rural people."



Auditorium.

XVI.

FARMERS' INSTITUTES—EARLY INSTITUTES CONDUCTED BY THE COLLEGE—SUMMER INSTITUTES—STATE AID—SUPT. J. H. MILLER AND HIS WORK—RAILROAD INSTITUTES—COLLEGE EXTENSION WORK.

FROM its organization in 1863, the Kansas State Agricultural College has recognized the farmers' institute as a means for disseminating facts and methods pertaining to agriculture and horticulture among those directly interested. Conventions of the farmers of the vicinity of Manhattan were held at the College every few months as far back as 1864. The first well organized and properly reported farmers' institute under the auspices of the Faculty was held in Manhattan November 14, 1868. This was followed by a similar institute November 20 and 21 in Wabaunsee. In the early seventies several institutes were held at the College covering from three to five days, attended by such specialists as Chas. V. Riley, Dr. W. H. Howsley, Joseph Bushman, Wm. Muir, and the editors Murtefeld and Coleman of *Colemans' Rural World.*

A belated account of the institute held at Manhattan in 1868 appeared in the Manhattan *Standard* for December 5, 1868, and is as follows:

FARMERS' INSTITUTE.

The Union Agricultural Society met in the County Hall, Manhattan, November 14, 1868, at 10 A. M., and was called to order by the president, Professor Hougham, and opened with prayer by Rev. R. D. Parker.

The first business was an address by President Denison, of the Agricultural College. His theme, "The Relation of the College to the Agricultural Interests of the State," was carefully and skillfully developed. Much valuable history of the origin and endowment of industrial schools was given, and their vital relation to the welfare of the State clearly shown. The address was replete with scientific facts and practical hints, and we hope it may appear in print.

It was followed by an interesting discussion upon topics suggested by the address, Messrs. Platt, Denison, Gove, Gale, Pierce, Marlatt and Parrish participating.

The discussion was followed by a lecture from Professor Mudge on "Tree Borers," showing there were over one hundred varieties now known in this country, and tracing the most destruc-

tive through their varied forms of existence, and making known the time and manner of waging war upon them if we would save our fruit. In this an ounce of prevention is worth a pound of cure. This lecture was illustrated by specimens of the insects and sections of trees destroyed by them.

The professor acknowledges his indebtedness for two beautiful cases of insects that he exhibited to Mrs. Thomas C. Wells, who has a splendid collection of over three hundred varieties well worthy of the attention of all lovers of nature.

This lecture was followed by a brief but spirited discussion, Messrs. Gove, Pierce, Platt, Denison and Marlatt taking part. The society then took a recess until 2 P. M.

In the afternoon the first exercise was a carefully prepared and thoroughly practical address by Rev. Mr. Gale, on "Forest Tree Culture," illustrated by sections of various kinds of trees grown here, showing that a great variety of forest trees may be successfully grown, and what varieties are most valuable, both for windbreak and timber. He also discussed the treatment and planting of seed and the manner of cultivating, and stated some startling facts of the profit of tree planting. Messrs. Mudge, Marlatt and Little followed in brief speeches, stating many important and interesting facts.

Geo. T. Anthony, editor of the *Kansas Farmer*, being present, was called up and made one of those finished and magnetic speeches which so few men know how to make. It was packed so full of humor, fact and argument that the reporter forgot his pencil. I wish that all the farmers of Western Kansas could have heard it.

Professor Hougham followed with a pointed and pithy lecture on the "Economy of the Farm." If its lessons could be heard and heeded many thousands of dollars could be saved by our farmers.

And thus closed a meeting of great interest and value, the only regret being that more were not profited by its teachings.

The next meeting of the society will be held on Saturday, December 12. Subject, "Small Fruits."

There has been some controversy as to who originated the idea of organizing farmers' institutes in Kansas and in the United States. Prof. E. Gale, in letters written from Florida to Professors Willard and Walters, claimed the honor of having made the first suggestion to the Board of Regents, when a member of that body, to interest the farmers in the work of the College by holding farmers' institutes. Mr. Gale in fact believed that the Kan-

sas State Agricultural College was the very first that systematically organized such farmers' meetings. Governor Glick is often quoted as the one who offered the first resolution before the Board to hold institutes in other parts of the State. The records of the Board contain a resolution by him, made June 23, 1868, which was unanimously adopted. It read as follows:

Resolved, that a system of lecturing on agricultural subjects at this College and in populous settlements of the several counties of the State should be continued, so that the benefits of farming according to correct agricultural principles may be disseminated throughout the State.

During Anderson's presidency nothing was done in this direction, but upon the election of President Fairchild, who had been intimately associated with the farmers' institute work of Michigan and highly appreciated its value to the farming population, the College at once arranged for the holding of at least six institutes a year in as many different counties in the State. A few years later the number was increased to eight, and still later to ten. A permanent Faculty committee was appointed to make arrangements with parties interested, and a great deal of enthusiasm within and without the institution became manifest with regard to this practical work. The first regular institute in which the writer of this took an active part was held at Clay Center in the spring of 1882. It was attended by several specialists and newspaper reporters, and by Maj. W. Sims, of Topeka, who at that time was secretary of the Kansas State Board of Agriculture.

STATE AID.

In the early nineties the state of Wisconsin inaugurated a new movement by establishing farmers' institutes in every senatorial district and paying for this work by a special legislative appropriation of $12,000 per year. Minnesota followed by appropriating $13,500 annually, Pennsylvania by giving $15,000, and New York by setting aside an equal sum for this purpose, while Ohio decided to raise by county tax a sum not to exceed $200 for each county. This liberality towards the farmers' institute incited prolonged discussions in the press of Kansas, with the result that in 1899, '01, '03 and '05 the legislature appropriated $2000 per year for this purpose, thus enabling the College to greatly increase and systematize its work. Localities could now be visited in all parts of the State. Between July 1, 1890, and July 1, 1897, the Agricultural College held 118 institutes at an average cost of $18.93, while in 1900-'01 the cost had been reduced to an average

of $12.82. The following table gives the figures for the decade from 1890 to 1900.

FARMERS' INSTITUTES.

Year.	Number.	Total Cost.	
1890-'91	27	$ 254.33	$18.74
1891-'92		251.79	
1892-'93	11	264.01	24.00
1893-'94	17	342.12	20.12
1894-'95	22	398.10	18.10
1895-'96	22	336.81	15.31
1896-'97	19	386.56	20.34
1897-'98	30	489.94	16.33
1898-'99	63	464.84	7.49
1899-'00	136	2000.00	14.70
1900-'01	156	2000.00	12.82

The cheapening per institute of the expenses in 1898-'99 was due to the reduction of the College delegations from three members to one or two and the arranging of circuits along railroad lines.

SUMMER INSTITUTES.

Up to 1897-'98, the institutes were usually held during the winter months, but in that year the so-called summer picnic institute was inaugurated. Professor Cottrell favored this change and the results proved more satisfactory than had been anticipated. He held that in the winter the weather is often too cold and the roads are too bad for the farmers to leave their homes; that the members of the Faculty have but little time to be away from their classes; that the students cannot assist in working up attendance, and that the social features, such as basket dinners, exhibitions of farm products, etc., are not as likely to be successful. The attendance at some of the picnic institutes held during this period often reached the thousand mark, and gatherings of less than four hundred were very rare. Other members of the Faculty, however, were not so certain that the picnic institute was the best arrangement for reaching the farmer. In an article published in the *Industrialist*, Dr. J. T. Willard said:

"The value of an institute is not measured by the number of people who are caused to assemble. In too many instances picnic gatherings or celebrations with which an attempt has been made to include a farmers' institute have been total failures in the latter respect because of the disturbing effect of games and commercial enterprises. It is possible to conduct a picnic institute successfully, but it is difficult to do so. Addresses and discussions are always presented under more favorable conditions in a hall than out-of-doors."

COUNTY AID.

As previously stated, in 1899 the farmers' institute work of the College was assisted by the State legislature, which, following the example of other states, appropriated $2000 per year for two years for this purpose. In 1901, 1903 and 1905 these appropriations were repeated, and after that date considerably increased. The totals expended by the College for this purpose in 1905-'06 was $2668.36, in 1906-'07 $3788.42, in 1907-'08 $6485.52, and in 1908-'09 $8200.00. The State, appreciating the effective work of the Farmers' Institute Department, also aided the College through the counties where institute organizations existed. A law was passed in 1903, making it the duty of each county having a county farmers' institute organization to appropriate $50 for the purpose of assisting in paying the expenses of an annual two-days' institute. The law read as follows:

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. Whenever any county farmers' institute association in this State shall have elected president, vice-president, secretary and treasurer, and adopted a constitution and by-laws for its government, it shall be the duty of the county commissioners of such county to appropriate annually the sum of fifty dollars, or so much thereof as may be necessary, to defray the legitimate expenses of a two-days' institute at such place in the county as may be designated by the executive committee of the institute association; *provided*, that this act shall not apply to institute associations that have not been in successful operation at least one year.

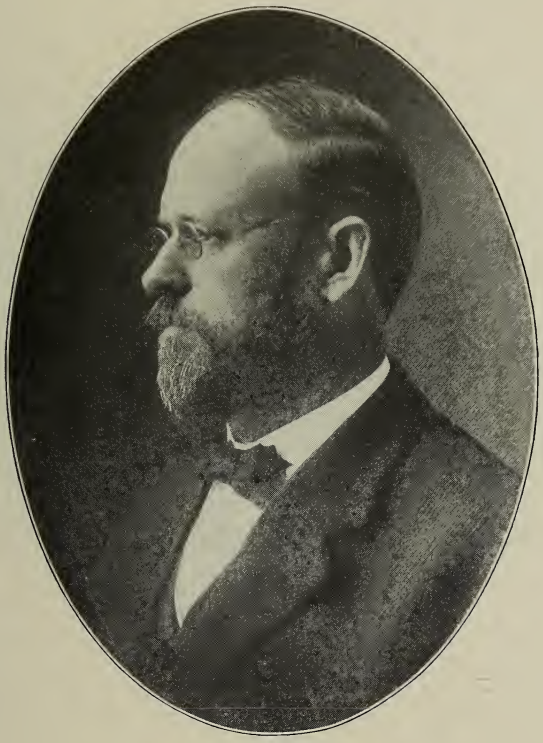
SEC. 2. This act shall be in force from and after its publication in the statute-book.

This law greatly increased the means for extending the efforts of the College. In October, 1905, the Board of Regents decided to push the farmers' institute work into every county in the State. Mr. J. H. Miller, formerly the editor of the *Holton Tribune*, was employed as State institute superintendent, with the understanding that he was to maintain an office at the College and devote his whole time to the extension of this work. During that year 155 institutes were held, and during the next year 135, and this number has been increased every year to date.

In 1909 the legislature came to the aid of the College by giving the Farmers' Institute Department a special appropriation of $25,000 for the year 1909-'10, and $27,500 for the year 1910-'11, and by passing a law authorizing counties having an institute organization to appropriate additional $15 for each local institute held during the year. The law is simply an amendment to that passed in 1903. It adds the following provisions and sections:

SECTION 1. . . . *Provided further*, that no county institute shall be granted any sum in excess of one dollar for each resident farmer who is a bona fide member of said institute at the time the request is made, the total amount granted not to exceed fifty dollars in any one year.

SEC. 2. Whenever in any county a local institute shall be organized, by or with the approval of the State Farmers' Institute Department of the Kansas State Agricultural College, and shall have elected a president, vice-president, and secretary-treasurer, and adopted a constitution and by-laws



Supt. J. H. Miller.

for its government, it shall be the duty of the county commissioners of such county to appropriate annually the sum of fifteen dollars, or so much thereof as may be necessary, to defray the legitimate expenses of a two-session institute; *provided*, that this act shall not apply to institute associations that have not been in successful operation at least one year; *provided further*, that not more than six such local institute associations in any county shall receive such aid in any year; *provided further*, that no local institute shall be granted any sum in excess of one dollar for each resident farmer who is a bona fide member of said institute at the time the request is made, the total amount not to exceed fifteen dollars in any one year.

SEC. 3. Each and every institute association to receive said appropriation shall submit with each request for aid a certificate from the Department of Institutes of the Kansas State Agricultural College, certifying that the

said institute is legally organized and has held its annual meeting as above provided.

Another law increasing the field of extension work of the College was passed in 1909. It authorizes the board of county commissioners of any county in which an agricultural demonstration farm has been or shall hereafter be located by the Board of Regents of the State Agricultural College to lease or donate a tract of land for such purpose and to appropriate money, and contract for the maintenance of the same. The law is as follows:

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. The board of county commissioners of any county in this State in which an agricultural demonstration farm has been or shall be hereafter located with the consent of such board of county commissioners by the Board of Regents of the State Agricultural College is hereby authorized to lease or donate to the Board of Regents of said College any portion of lands owned by said county not exceeding forty acres in extent, suitable for use in demonstrating the value of crops and methods in farming, gardening, horticulture and forestry, and to contract for the carrying on of such demonstration work under the plans, direction and supervision of representatives of the Board of Regents of said College.

SEC. 2. All work upon such demonstration farms shall be planned and supervised by representatives of the Board of Regents of said Agricultural College, and they may furnish such seeds and plants at reasonable cost on board the cars at Manhattan, Kan., as will not interfere with experimental work done at the College.

SEC. 3. County commissioners may furnish sufficient help and proper teams, tools, and materials, other than seeds, to do the work planned by the representatives of the Board of Regents, and are hereby authorized to pay out of the general fund the cost of such expense and work, including traveling expenses of supervisor, the total cost to any county not to exceed fifteen hundred dollars for the first year nor five hundred dollars in any other year thereafter.

SEC. 4. Any surplus crops grown upon such demonstration tracts to be the property of the county in which it is located, and shall be sold to the citizens thereof when desired for seed or propagation, or used for public institutions; the receipts from such sales to be credited to the farm.

SEC. 5. That it may be known what is planted, methods used and results, each plot or planting shall be plainly and legibly marked for information of visitors to the farm and the representatives of the Board of Regents of said College, the superintendents of said farms shall furnish data for a brief printed summary, giving the results in amounts and values at usual market prices to the county clerk by December first of each year, who shall have same printed and give, through the county treasurer, a copy of the same to each taxpayer with his tax receipt, and to others on request, and to publish same in the official paper of the county.

SEC. 6. This act shall take effect and be in force from and after its publication in the official State paper.

RAILROAD MEETINGS.

The first series of railroad circuit farmers' meetings in which the College furnished the principal speakers was organized by the Blue Valley Creamery Company. These meetings were held in 1904 in the northern part of the State, chiefly along the Missouri Pacific Railroad, and were attended by Prof. Oscar Erf, his assistants, and some members of the Agronomy Department. The venture proved a perfect success and entailed no cash ex-

"Railroad Institute" at Potter, Kan.

penses on the College. When Supt. J. H. Miller took charge of the Institute Department he at once perceived the great advantage of fitting up a train and visiting the farming communities along the different railroad routes. The railroads were generously willing to assist the College in this good work, and placed special trains at his disposal. In his biennial report for 1907 and 1908 he gives the following glowing account of these efforts:

"Since July 1, 1906, we have had splendid coöperation from several roads. In August, 1906, we had a 'wheat' train over the southwestern lines of the Santa Fé, and in six days we had over 7300 people to hear the lectures. In the same month we had the coöperation of the Union Pacific company with a 'wheat' train over their western lines, and in four days the attendance was over 4000. In June, 1907, the industrial department of the Santa Fé company again provided an educational train—this time for the promotion of alfalfa-growing in southeastern Kansas, where we

had, in six days, over 7000 people to hear the lectures. In January, 1907, the industrial department of the Missouri Pacific company provided a fine exhibit car and took the entire 1907 'State corn show' over its lines in southeastern Kansas, the trip continuing for two weeks and reaching eighteen towns, with from one-half day to a day at each, with a total of over 8000 visitors to the car and about 4000 to attend the lectures. Several new institutes were organized on this trip. In the fall of 1905 a special

Farmers waiting for the institute to begin.

train was conducted over the entire Rock Island system, and in that same year work was carried on for seven weeks in coöperation with the industrial department of the Missouri Pacific company."

COLLEGE EXTENSION WORK.

The Department of Farmers' Institutes and Agricultural Education Extension was organized in June, 1906. Up to October, 1905, the correspondence with farmers' institute organizations was attended to by professors, and speakers were sent out only on request, but after that date when Mr. J. H. Miller was put in charge of the work it was decided to organize a permanent county institute in every county and as many local institutes as the population and location of towns would justify. He soon had the matter of organization well in hand, and in the following spring he was made the head of a separate department.

In 1905 there were thirteen permanent farmers' institutes in

the State, but only two of these had a membership list and neither had a membership fee. Institutes had been held in probably more than half the counties, but few permanent organizations had been left and there had been a "dying and reviving" of the institute idea. In May, 1909, 103 of the 105 counties of Kansas had permanent county institutes, and there were 141 local organizations, each with constitution, by-laws and officers, and all but about 60 having a bona fide membership, or 244 organizations, with that number of presidents and secretaries, and with a reported membership of about 6500. Many of the institute organizations have arranged for regular monthly meetings. Another feature introduced by Superintendent Miller is the stock- and corn-judging classes and the dairy demonstration work.

Of other extension work organized during the last few years may be mentioned the State Farmers' Institutes and the boys' and girls' contests. The College made several unsuccessful attempts during the time of Pres. Geo. T. Fairchild and Pres. Thos. E. Will to have large gatherings at Manhattan during the winter holidays, but in 1906, Supt. J. H. Miller succeeded in making a six-days' institute a success, and since that time such State gatherings have been held annually. In fact, the State Farmers' Institute at the College has grown to be the biggest agricultural event in the State.

In connection with these annual gatherings of farmers at the College there have been organized several auxiliaries, such as a five-days' judging school for corn, stock, poultry, etc., a Boys' Corn-Contest Association (1906), a Kansas Corn-Breeders' Association, an Institute Officers' Conference, a State Draft-Horse Breeders' Association, a Swine-Breeders' Association, and a Sheep-Breeders' Association. Most of these auxiliaries of the State Farmers' Institute have held meetings regularly for the last four years.

In 1907 the department began the publication of two series of pamphlets, one for institute members and the other for public-school teachers. These were printed in such quantity that they could be supplied to all institute members and to all teachers who would ask for them. The following pamphlets have been issued to date:

The Soil	J. T. Willard
How Plants Feed and Grow	J. T. Willard
Hygienic Cookery	Henrietta W. Calvin
Tree Culture	Albert Dickens
Bird Life	T. H. Scheffer

A Corn Primer.....C. S. Knight
A Study of Insects.....T. J. Headlee
Boys' and Girls' Contest.....J. H. Miller
Swine.....Geo. C. Wheeler
Farm Dairying.....D. M. Wilson
Poultry.....D. M. Wilson and W. A. Lamb
Sheep.....R. J. Kinzer
Demonstration Problems.....J. H. Miller
Dry-Land Farming.....A. M. Ten Eyck
Making Hay.....A. M. Ten Eyck
Plant Breeding.....Geo. F. Freeman
Insects Injurious to Farm Crops.....Geo. A. Dean

These pamphlets, many of which contain over a hundred pages of matter, were issued under different general titles, but since July, 1908, all have appeared as numbers of a new publication: *Agricultural Education.* In addition to these seventeen pamphlets Supt. J. H. Miller has published two biennial reports.

UNIFORMITY IN INSTITUTE WORK.

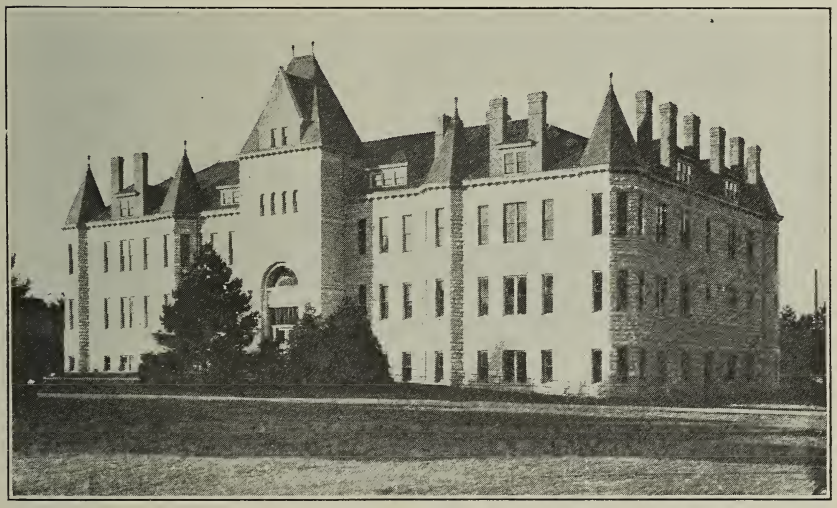
The first attempt in the direction of securing uniformity of method in institute work in the United States was made in 1896, when Supt. George McKerrow, of Wisconsin, called a meeting of the institute workers of the country for March 13 of that year, to be held at Watertown, Wis. At this meeting a form of constitution was prepared to be submitted to a subsequent convention to be held October 14, 1896, in Chicago. At the Chicago meeting a new constitution was presented as a substitute for the one prepared at Watertown, and after extended discussion the substitute was finally adopted. The name given to the organization was "The American Association of Farmers' Institute Managers."

In furtherance of the purpose of the organization to secure greater uniformity, the association at its meeting in Columbus, Ohio, in 1897, by formal action, requested the secretary of agriculture of the United States to "arrange for a division in connection with that department, to be known as the Division of Farmers' Institutes, and to appoint a suitable officer who shall be in charge."

The secretary of agriculture at the second session of the Fifty-seventh Congress made request for an appropriation of $5000 for the purpose of enabling the department to engage the services of some one to coöperate with the state directors, and to render such other assistance as the department might be able to furnish. Congress made the appropriation, and an official known as farmers' institute specialist was accordingly appointed, who took

charge of the work under the direction of the Office of Experiment Stations on the 1st of April, 1903.

The act providing for the appointment makes it the duty of this officer to "investigate and report upon the organization and progress of farmers' institutes in the several states and territories, and upon similar organizations in foreign countries; with special suggestions of plans and methods for making such organizations more effective for the dissemination of the results of the work of the Department of Agriculture and of the experiment stations, and of improved methods of agricultural practice."



Physical Science Hall.

XVII.

STATE UNIVERSITY VERSUS STATE AGRICULTURAL COLLEGE.

THE controversy between the Kansas State University and the Kansas State Agricultural College over their respective "spheres of work" was officially started by an open letter written by the secretary of the State Board of Agriculture, F. D. Coburn, dated April 4, 1908, and addressed to Governor Hoch, demanding the calling of a conference of the boards of regents of the three higher State institutions for the settlement of this problem. Responding to this letter, the governor called a meeting. It was well understood, however, that the real purpose of the move was to anihilate the engineering courses of the College. The State Normal School had no grievances against "Manhattan" and the Agricultural College had none against it or the University. All that the College asked was to be let alone. It had found its field of usefulness and had met the demands of the industrial classes of the State in a broad, effective and progressive way. But the rapid development of its departments had been observed at "Lawrence" with fear, and, as the political constellation of the State seemed favorable, it was decided at Mount Oread to renew the efforts made in the early seventies; that is, to start a war that could be carried into the legislature. At first the press was rather favorable to the University. Well-written articles by the professors, alumni and friends of that institution appeared at frequent intervals, but gradually the true animus of the controversy became known and the case of the College grew stronger and more hopeful.

The board committees met several times, but reached no satisfactory agreement over the main point in controversy. At a subsequent meeting Judge A. M. Story, president of the Board of Regents of the Kansas State Agricultural College, presented a brief in which he defended the engineering courses at the Agricultural College, insisted that the University had no right to organize courses in engineering, and cited the land grant act of 1863, which states that the agricultural colleges were to open courses in agriculture and mechanic arts for the training of the industrial classes. He showed that it was not the intent of Congress to make these schools only agricultural schools, but that they were also intended to teach the mechanic arts, and that this term includes not merely the shop work of the common trades

but everything that pertains to machinery, machine construction, electricity, irrigation, surveying, drainage, good roads, building construction, etc. He showed that there was need in the State of a technical school that would accept students without a "Latin" preparation (a full, four-years', classical high school course) and that the College educates its students at less expense per capita than the University.

Judge Story held that the State University should stand for advanced scholarship along lines of literature, art and science and not for lines of technical education which belonged by congressional enactment to the Agricultural College. He also insisted that the University was continually encroaching upon the work of the Agricultural College and Normal School in its courses in economic entomology, attempt to introduce domestic science and shop work, and in its department of education. He held that the alignment should be absolutely along the idea of industrial education and not merely on the basis of what was popular; that the Agricultural College stood for the interest, not only of agriculture, but for all technical work of the industrial classes; that engineering was as strictly an industrial department as agriculture, and that to take mechanic arts away from the Agricultural College now would be a diversion of government funds. The Standard dictionary, he said, defines mechanics as "relating to machinery and machine construction," and nowhere is there to be found a definition of mechanic arts limiting it to carpentry and blacksmithing.

Following is an excerpt of Judge Story's brief:

Senator Morrill, the author of the bill that created the land grant colleges, had in mind the education of a certain class of people. It seems strange, in the light of the present day, that it was considered necessary to provide by law for the education of certain classes; however, when we look at the educational conditions as they were in 1862, and prior to that time, we find that there was no higher education within the reach of the class that Senator Morrill sought to benefit. The colleges were of the old classical order. They educated lawyers, doctors, and ministers. At that time there were but four or five schools or colleges in the United States teaching engineering in any of its phases. Senator Morrill, himself not a college graduate, was a man of good judgment and great preception. He saw the necessity of doing something that would encourage the education of the industrial classes.

Along about 1890 in Vermont there was an effort made (as is suggested for Kansas at this time) to make the agricultural college established under this act a school which should *teach nothing except agriculture.* Senator Morrill appeared before the legislature in Vermont to give his idea of the intention of the original "Land Grant Act," and as to whether or not the state should or could direct that nothing but agriculture could be taught in its

agricultural college. Senator Morrill said: "The object of the act of 1862 was to give a chance to the industrial classes to obtain a liberal education, something more than was bestowed by the universities and colleges in general, which seemed to be based on the English plan of giving education only to what might be called the professional classes—in law, medicine and theology."

In respect to the proposed change in Vermont, Senator Morrill said: "I would regard that as a subversion of the whole idea of the Land Grant Act of 1862, which was of a much broader meaning. It included the idea that agriculture and mechanic arts were to have a leading or first position, but it included much more. It was for the industrial classes, to promote their instruction generally, and it was not to exclude even the classics. Therefore, I should regard any change from the original plan as a diversion of the fund and a revolution of the whole practical idea."

It must be conceded that a certain line of work was required to be given in the colleges founded under the Land Grant Act, and that Kansas fully realized this, as in the preamble to the act locating the agricultural college such requirements were enumerated. The State of Kansas cannot take from, in any particular, the requirements as set out in the law of 1862. It is possible that Kansas might add to the work to be done in such institution, but it absolutely cannot take from. Under the government act, a state in order to avail itself of provisions should indicate its acceptance of the terms of the act within two years from July 2, 1862, and within five years from July 2, 1862, should provide the college where such studies should be taught. The State of Kansas within eight mouths from the time of the passage of the Land Grant Act properly accepted its terms, and within the same time located the institution for the carrying out of the terms of the said act, but there is a serious doubt in my mind as to whether the State of Kansas at this time, after the expiration of more than forty-five years from July 2, 1862, has any right or could possibly change even the location of the institution which was established in 1863 at Manhattan. Kansas has received as an endowment over $500,000 under the provisions of that act.

There has been some criticism as to the growth of engineering in the agricultural colleges. It has been claimed that it is out of proportion when compared with the growth of the agricultural end of the institution. It might be observed that since the civil war this country has experienced the greatest commercial and industrial growth in its history, and that as a result skilled men in either commercial or industrial life have been in demand. People are getting to be practical. There is a demand for an education which will fit a young man, or young woman, to do things; to do things for which there is a demand, to enable them to take part in the development of the commercial and industrial work of the times. There is a large demand for young men graduates of engineering schools. As long as such demand exists young men will be provided to fill the positions: they will be in the drafting room; they will be engaged in the designing, the construction and the operation of machines and appliances. It is just as necessary in the interest of agriculture and farming that some man construct a self-binder as it is that some man sit on the binder and operate it in the actual work of cutting the grain. One man must make a cultivator, another must hold the handles in the field. One man must survey the route where the railroad is built, another will raise the wheat that is shipped over the line, and another

will build a mill. It is the rankest nonsense to say that all farmers' boys should be farmers. Develop the young man along lines for which he is adapted. If it be farming, he should follow that; if it be something else, he should follow that.

The Kansas State Agricultural College is not merely a college exclusively for the education of farmers—it is a college specially for the education of the industrial classes. This institution educates young men along liberal and practical lines for the several pursuits and professions of life as provided in the original Land Grant Act. Here a democratic atmosphere prevails. All meet on an equal. It makes no difference what course a young man takes, he has the same standing, if he possesses the natural qualities of manhood.

But will the attitude of the University of Kansas bear close examination? In 1889 the legislature revised the law applicable to the University and provided that it should consist of three departments. First, a department of literature. Second, a department of the sciences. Third, a department of the arts. That is the only law that defines or declares what the University may or shall teach. Within these three departments it must operate. There is no law authorizing the University to conduct an agricultural department, or to conduct agricultural investigation at all. There is no law authorizing the University to conduct a normal department. The only law existing which would authorize the University to conduct its engineering departments is the law appropriating funds for the erection of its engineering buildings, the purchase of apparatus and their maintenance. I do not believe that the teaching of engineering is necessarily a part of the university work. The universities of the western states started out along the same lines as the old classical colleges of the East. After the colleges established under the Land Grant Act got into operation and were giving the industrial classes an education along industrial and practical lines, and when it became evident that such education was the education which the people were demanding, the universities of the western states sought to change and did change their several courses to include just as many industrials as possible.

By examination of the University catalogue of 1908, on page 63, I find the following: "The 1897 session of the legislature created the State entomological commission. The field work of this commission is conducted by the departments of entomology at the University and the Agricultural College. The University is performing the work of inspecting nurseries and issuing certificates, and has since the beginning of such requirements in 1896. It has also conducted some extensive investigations in the interest of agriculture and horticulture. Under this commission the department of entomology of the University will cover a much wider field and will publish from time to time the results of its work."

In this matter the University is out of its line of work. It does teach, and should teach, entomology, but it should not be permitted to use its funds and its efforts along the lines which purely and positively belong to the Agricultural Experiment Station, which station is fully and amply equipped to do such work. It proposes to "publish from time to time the results of its work." In this we presume that it means that it will issue bulletins, something wholly beyond its authority, and an invasion of the rights of the Agricultural College.

On page 113 we find the following: "The University offers for next year

a few courses in domestic science. These courses are of strictly University grade, and if experience warrants will be added to as time goes on until a fully formulated course results."

This is absolutely out of harmory and out of keeping with a university, but it is mentioned to show the tendency of the University toward spreading out and absorbing the work of other institutions. It shows the tendency of the University to get out of its own sphere. It shows its desire to adopt the ideas of the land-grant colleges. It shows its disposition to duplicate the work of other institutions. It shows its disposition to disregard the purposes for which it was established, and to go chasing around for popular things.

I notice on page 126 there is a department known as "Education." I find that under this heading is sought to be given to some extent a normal training, and from the course of study outlined I would consider it quite complete. There might be no objection to this, and certainly would be none on the part of the representatives of the Agricultural College, were it not that this department, when considered in connection with the University's high school visitation department, gives an unfair advantage to University graduates over those of either the Agricultural College or the Normal. I know it to be a fact that many high schools of the State of Kansas not only refuse but are actually afraid to employ a principal or teachers for the high school until they correspond or confer with the University authority having charge of the high school visitation. We have in the State Normal School an institution specially prepared to graduate school-teachers, and yet those teachers are being discriminated against; at least until graduates of the department of education of the University are placed.

From the above statements I believe it can clearly be inferred that the Kansas State Agricultural College is not unnecessarily duplicating work. I believe it is doing no work except that required by congressional enactment, and that the work it is doing is absolutely necessary in order to comply with the provisions of such act. On the other hand, I believe that the University is unnecessarily duplicating work which belongs to the other institutions.

Passing to another feature of the case, and an interesting one, too, I find that the State has appropriated to the Agricultural College, for all purposes, $1,888,523, while it has appropriated to the University about four million dollars. I also find that the enrolment at the Agricultural College for several years has exceeded the enrolment of the University. I find that the legislature of 1907 gave the Agricultural College, for the years 1908 and 1909, a total of $295,000, while it gave the University $491,000 for current expenses. In addition to the amount given the Agricultural College, this gets the interest on its endowment, and also appropriations under the Hatch Act, Morrill Act, etc., which will amount to probably $90,000. This money is used largely in the Experiment Station and directly applied to agricultural experiments. In addition to the above the University will receive endowment interest to the amount of several thousand dollars. Taking into consideration the fact that each of these institutions takes care of practically the same number of students, is there not an unequal division of funds? It strikes me that there should be some way devised that no educational institution should suffer from lack of funds, but that all funds used for educational purposes should be so managed that the greatest good would result.

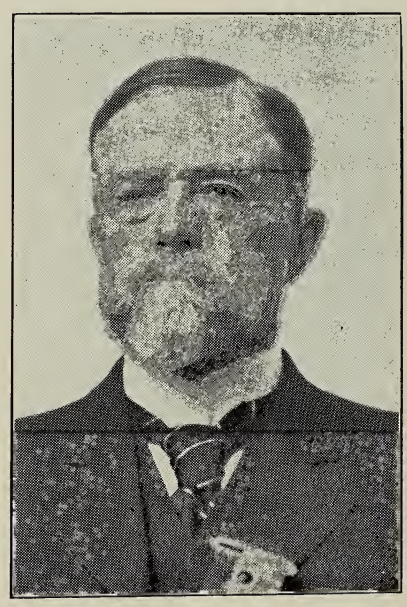
It is true that there is a large expenditure in the State of Kansas for educational purposes, and I am speaking only of these three institutions, but I believe it to be true also that there is no state in the union that is to-day educating a larger per cent of its young men and women or educating them at less per capita expense than the State of Kansas.

The University has always had the big end of the appropriations in the State. It has had practically all it asked for. It has taken everything it desired in the way of new courses and new work. And now after engineering has been in the Agricultural College since the College was established under the Land Grant Act, it comes forward and demands that the engineering be taken from that institution. This question will be settled, and when it is settled it will be found that the Agricultural College still has its engineering.

There is in the minds of a great many people in the State of Kansas a notion that the Agricultural College was established merely to teach agriculture. I have sufficiently shown that such is not the case. Agriculture is one of the subjects required to be taught, yet this College was founded for the purpose of educating the industrial classes, and not educating people exclusively in agriculture. The State of Kansas, having accepted the provisions of the original Land Grant Act, and having accepted an endowment which will amount to at least $500,000, and having established an institution in accordance with said Land Grant Act, and having taken part in the development of a new and the greatest educational system the world has ever seen, the education of the industrial classes, the State of Kansas will not by a legislative enactment, or otherwise, say to the world that when it accepted the provisions of said act it did not intend honestly to keep its pledge. This College was established in accordance with congressional enactment. The only thing which the Kansas legislature had the right to do was to accept its terms and, if desired, establish its school and maintain it. Having done it, the whole question was settled.

The matter rested till after the fall election, which greatly favored the University by placing one of its regents into the State senate, an ex-student into the governor's chair, and another regent and several of its ex-students into the house. Mount Oread was evidently aware of these advantages, and in its biennial report the chancellor boldly urged the lawmakers to settle the controversy by abolishing the engineering courses of the College, or still better by consolidating the two institutions under one board and one executive. The report was a peculiar document. It covered about a hundred pages and devoted over two-thirds of these to a discussion of the consolidation problem. It pleaded for the organization by the State of a great centralized school system with the State University as its apex and directing force—a university of thousands of students and hundreds of courses. It tried to show that a large school of this kind could educate the students better and at less expense to the State. It argued that engineering students as well as lawyers and doctors needed the full Latin preparation of the high school and declared the present high

school courses as up to date. It refuted the charges made by many noted educators that the high school work was unnecessarily "ancient" and not designed to form the best connecting link between the common school and the professional courses in mechanic arts. It insisted that it had started its engineering courses before the College had organized such work and that it was doing nearly all of the work in these lines now being done at Manhattan. It held that its original charter gave it the right to



Hon. Edwin Taylor.

teach not only engineering but also agriculture. It said that the State had the right to organize two or more institutions under the organic law creating "colleges for the benefit of agriculture and the mechanic arts," and the further right to divide the financial benefits derived from the land grant and the College aid bill among two or more institutions. It cited the case of Massachusetts, where the mechanic arts are taught in a polytechnic school separate from the agricultural school, and it tried to prove that the agricultural departments of state universities were doing more for the actual farmer than the separate land-grant colleges.

The University was evidently conducting its preparations for the final combat in the legislature with determination. It was reported, too, at Manhattan, that a number of our would-be friends

in high places at Topeka had joined hands with the crafty chancellor and were furnishing him with ready-made arguments. It was not expected, however, that the initial bomb of the battle would be fired early in the session and by one of our own men. The legislature had barely been organized when Regent Edwin Taylor, of the College, introduced the following petition in the senate:

Your petitioner represents that he is a member of the Board of Regents of the State Agricultural College holding a minority view on the subjects herein discussed, and that he was one of a committee appointed by Governor Hoch to consider the question of establishing a "line fence" between the different State educational institutions. That committee spent much time in considering whether such "line fence" was advisable and desirable. As a result of the investigation and discussion your petitioner is convinced that such delimitation is essential to the welfare of the institutions themselves, by bringing to an end the present situation of rivalry and competition between them; and essential to the welfare of the State, by saving to it the vast sums that are sought to be expended in duplications that will result in no adequate educational advantage, and will serve merely to gratify institutional jealousy and ostentation. Your petitioner is convinced that such boundary making can be done only by the legislature of the State, and for this service to be rendered by your honorable body he makes this his respectful petition, in support of which prayer he begs leave to offer the following:

The chancellor of the State University has recently advocated in public print the purpose of installing an agricultural department of the University. The general principle that what is worth doing at all is worth doing well applies with especial force to schools, whether of high or low degree; and to establish at Lawrence an agricultural department, abreast in point of excellence of the other departments, there would, in the opinion of your petitioner, entail present and prospective expenditure of large amounts of public money in an unnecessary duplication of the work at Manhattan.

That clause of our State constitution which provides for the establishment of a University for "the promotion of literature, the arts and sciences" also says it shall have "a normal and an agricultural department." It appears obvious to your petitioner that the concern of the constitution-makers ran to having those subjects taught at public expense in some place, rather than to having them taught at the same place. It isn't conceivable that the main interest of the constitution is in a local concentration of "departments;" it runs rather, it would seem, to an all-embracing scheme of public education at the cost of the State and under the State's control. If this contention is correct, then the State has abundantly satisfied the constitutional requirements as to "a normal and an agricultural department," by establishing an agricultural training place at Manhattan and a normal at Emporia. A declaration to this effect by your honorable body would prevent waste of public money and would reduce the friction and antagonisms between the educational institutions of the State and add to the usefulness of each.

The Agricultural College is established under the provisions of the land-grant act of July 2, 1862. That act provides, in each state availing itself of its bounty, "for at least one college" where agriculture and other things,

"not excluding the classics," shall be taught, "in such manner as the legislatures of the states may respectively prescribe," in order to promote education "of the industrial classes in the several pursuits and professions in life."

The intent of the above language is so obvious that your petitioner assumes that no question can be raised as to the design of Congress to secure in each of such states, through the assistance given by the land grant, a complete scheme of scientific and professional training that will cover "the several pursuits and professions in life." These are the requirements of a university. The State is abundantly prepared to satisfy all those requirements, called for by the Morrill Law, in the three State educational institutions, with present equipment. There remains only that the legislature shall officially recognize the distribution and "prescribe" against interference. The legislatures of other states have long ago "prescribed." The Kansas legislature should "prescribe." The language "at least one college," plainly indicates that two or more would not be repugnant to the act. In Massachusetts they have two such colleges, one at Amherst, the other at Boston. They have also divided the functions enumerated in the act, placing some in one branch of this dual college, some in the other. Kansas has the same right as Massachusetts to divide between her three colleges such preparation for the several "pursuits and professions in life" as she deems wise. The time has come for the legislature of the State, if it so desires, to put an end to much educational confusion and financial loss, by making formal announcement that in "prescribing" the adjustments under the land-grant act, it recognizes that the State institution at Lawrence is giving the "practical education" "in the several pursuits and professions in life" required of the State by Congressional enactment, except the teaching profession, which is established at Emporia, and the profession of veterinary medicine, which is fully taken care of at Manhattan, along with "agriculture and the mechanic arts."

Previous to about eleven years ago the rendering of the expression "mechanic arts" appears to have been made by the management of the Agricultural College at Manhattan as equivalent to the obvious intent of the same words in reversed positions, viz., "the arts of the mechanic"—the same rendering which now obtains and has all along obtained at the Agricultural College of New York (Cornell), Illinois, Ohio, Wisconsin, and Minnesota. A course in "engineering" was first offered in the catalogue of the Agricultural College at Manhattan in its issue of 1897-'98. The first students in electrical engineering were graduated in 1902. Civil engineering was put in last fall. The profession of engineering as taught at the State University consists of seven different courses; as taught at the Massachusetts Institute of Technology ("one" of the "colleges" operated by the State of Massachusetts under the land-grant act of 1862), it consists of thirteen courses. If allowed to do so, it is safe to surmise that the Regents of the Agricultural College will at least duplicate the work of the State University.

Your petitioner holds that it is the province and the duty of the legislature to determine the meaning of the words "mechanic arts" as they shall be construed by the Regents of the Agricultural College on the ground that such action is within the clause of the act which leaves the manner of carrying out its provisions to be as the "legislatures of the several states shall prescribe." Upon that definition, by you rendered, the whole future of the institution will depend. If your decision is for the "arts of the mechanic,"

with which every farmer should have some acquaintance, then you will stop the strong draught of professionalism, which in every college where agriculture and professionalism are put in close grapple has the effect of blowing "away from the farms" large numbers of farm boys who go to college to learn farming and stay to become engineers. If you decide in favor of the profession of engineering, then you should change the name from "Agricultural College" to some other name indicative of the dominant feature of the school. The history of all state colleges, so far as known by your petitioner, makes it apparent that wherever agriculture and the profession of engineering are taught together that agriculture becomes a secondary feature as compared with engineering, a fact which is shown by the number of students who, exclusive of the preparatory and short-course students, pursue the respective courses. The three leading states which teach "mechanic arts" in their land-grant colleges as equivalent to, or inclusive of, the profession of engineering, besides the State of Kansas, are Michigan, Iowa, and Colorado. Your petitioner has been unable to secure a copy of the last catalogue of the Michigan Agricultural College, but that of the previous year, presumably not far different in its proportions, shows that that year the Michigan Agricultural College had in its four college classes (freshman, sophomore, junior, and senior) 192 male students in agriculture of all kinds, and 371 students in engineering—13 less than two to one. The State College of Iowa (Ames), as shown in the catalogue for 1908-'09, has in the four college years, 272 male students in agriculture and 662 in engineering—122 more than two to one. Colorado Agricultural College catalogue, 1908-'09, shows in the four college years 29 agriculture students and 108 engineers—eight less than four to one. The catalogue of the Kansas State Agricultural College doesn't disclose the proportion of its courses, but your petitioner is able to state that the graduates at the last Commencement were 17 students in all kinds of agriculture, including agronomy, animal husbandry, dairying, and horticulture, while there were 27 graduates in the two kinds of engineering so far established, and four in architecture, 31 in all—three less than two to one. There are at this time in the four college years which differentiate the courses of study, viz., sophomore, junior, senior and graduate, 154 male students in all kinds of agriculture and 243 in all kinds of engineering, printing, and architecture. In view of this shifting of the incidence at Manhattan from agriculture to engineering, your petitioner respectfully suggests, in case the legislature decides to endorse and approve the same, as an appropriate new name, "The Kansas State College of Technology and Agriculture."

He begs leave further to represent that though the Kansas State Agricultural College has been slowly drifting over into the engineering current for years, it is nevertheless now erecting its first engineering building at a cost of approximately $50,000. The Regents are now asking $25,000 with which to equip this building; they are asking $60,000 for an extension to the building to accommodate electrical engineering. In two years more will be a request for the electrical engineering. After that comes mining engineering, chemical engineering, municipal engineering, etc., etc.—it is a program that will cost the State $500,000 to install, and corresponding sums to maintain.

Your petitioner further prays that, in case you should disapprove the continuance of the profession of engineering at the State Agricultural College, you will then take the sums of money thus released, $85,000—$60,000 for electrical engineering, $25,000 for mechanical engineering—with such

other amounts as may be required, and authorize the construction therewith at Manhattan of the following buildings: A gymnasium for boys, a gymnasium for girls, and a girls' dormitory, where the daughters of our citizens, in view of the youth and inexperience of many of those in attendance, can, if they desire, find within the College grounds rooms and board, under the supervision and care of the College authorities.

Finally, your petitioner begs leave to represent that while he has no credentials entitling him to speak for the farmers of the State, he is yet confident that he voices a majority sentiment among them when he points out the opportunity presented to your honorable body for giving the leading industry of the State a forward impetus of the greatest importance, viz: providing the means whereby there may be established at Manhattan, in connection with and as a part of the Kansas State Agricultural College, a constant exhibit, on a commercial scale, of the most effective and profitable methods of procedure and management in the production of animal fat, the production of butter-fat, the manufacture of butter-fat into different dairy products, in poultry production, in crop production, in seed-breeding and distribution, and in horticultural production, such exhibit being both for the instruction of students in attendance at the College and for the information of the farmers of the State.

For the one item of seed-wheat the press of the State is recommending an appropriation of $100,000 for imported seed-wheat. For a tenth part of that sum, the strains of pedigreed wheat of known performance, outclassing the average of the State by more than four to one, already in limited stock at the State Agricultural College, but not produced largely or disseminated widely for want of money and authority, could, within the space of a few years, be multiplied to the point of furnishing seed for every acre of wheat sown in the State, with the reasonable assurance that thereby the wheat crop of the State would be at least doubled. For the above purposes your petitioner asks that $25,000 per year, in addition to the requests of the Regents, for the next biennium be appropriated.

Wherever the country boy turns for his schooling the slant of his instruction is all toward the city. There should be one college in the State where the educational inclination is back toward the land, and where the boy will not be breasting, as a tide, a majority of his fellows bearing him away to town.

There is only one way to that end, and that is by eliminating the interests inimical to the central function, whatever it may be—just as the government eliminates when it teaches war by land in one place, and at another, war at sea.

Your petitioner desires to bespeak at Manhattan, on its industrial and professional side, an agricultural "West Point," where the strategy and tactics of the great life-sustainer, agriculture, may be taught with the same singleness of purpose as, on the Hudson, are taught the strategy and tactics of the great life-destroyer, war.

The introduction in the legislature of this petition by Regent Taylor produced consternation among the Faculty, the students, the alumni, and the thousands of patrons of the College. No one doubted the sincerity of the Regent. He had been a public man in Kansas for many years and was well known and highly respected,

but it was difficult to understand how he could have arrived at his conclusions. Conferences were held to discuss the situation and to discover whether there were perhaps others who wished to see the College limit its instruction to the course in agriculture. The students held mass meetings to consider ways and means to protect the interest of the institution. Numerous committees were appointed to inform the members of the legislature of the inevitable results of a victory of the University. President Nichols, Regent Blackburn, Ex-Regent Hessin and others were urged to go to Topeka and work against the bill that had already been introduced in both houses. Arguments and statistics refuting the statements of the University report were being printed and distributed. Much enthusiasm was manifested, and students from all the different courses went to work to prevent the disintegration of the great technical school of which they were a part. The legislators were almost snowed under by letters informing them of the real animus and condition of things, and the result was that in a few days the sentiment among the lawmakers was changed, that the bills asking for the division of the College were considered "hopeless," and that they quietly vanished from the calendars before they had been seriously considered.

The students naturally felt greatly elated over the success of the College, and, in order to prevent possible attacks that might be made in other forms, they invited the members of the legislature to come to Manhattan at the expense of the student body and see for themselves the great institution and its work and methods. The invitation was accepted, and a few days later the lawmakers and their wives and friends—more than 400 of them—came to the Agricultural College. It was a red-letter day for the students. A bountiful dinner was served by the young women of the Domestic Science Department, an Auditorium program was arranged, a drill on the campus and a band concert were given, and the legislators returned to Topeka satisfied that the College was a grand technical school—ideal and indivisible.

To fully discuss the many aspects of the controversy, and the reasons of the College for resisting the absorption plans of the University, would require the space of a book. There were many, and only a few can be epitomized here. The College held:

That it had carried out, with evident success and as far as its means would permit, the intention of the organic act.

That it had defined the terms "agriculture and the mechanic arts" in conformity with over ninety per cent of the land-grant institutions and in conformity with the explicit statements of U. S.

Senator Justin A. Morrill, the framer and father of the said bill.

That the terms "agriculture and the mechanic arts" cannot be defined narrowly as "farming and tinkering," but that both must be translated in a liberal manner and in a large way.

That "agriculture" as understood by every college in America includes "the whole galaxy of the sciences and arts pertaining to food production and food preservation"—farming, vegetable gardening, stock raising, veterinary science, poultry raising, bee keeping, dairying, fruit raising, food preservation, milling, grain storing, meat packing, etc., also the related subjects of forestry, floriculture, landscaping, tobacco growing, flax and cotton growing, wool production, food analysis, meteorology, irrigation, drainage, etc., etc.

That the term "mechanic arts" must evidently be defined in an equally liberal and broad manner as meaning not only the crafts of blacksmithing and carpentry—trades for which a costly and extended college education is hardly necessary—but the whole galaxy of the sciences and arts pertaining to the manufacture and use of hand tools and machine tools—the whole extended field of tool and machine construction (mechanical engineering), road and bridge building (civil engineering), irrigation and drainage (irrigation engineering), building operations of every kind (architecture), transportation (railroad engineering), power transmission (electrical engineering), etc.

That the effective modern mechanic is a high-grade specialist—an engineer—not the village tinkerer and cobler of two generations ago. The mechanic grew as his art grew.

That the removing of the instruction in the mechanic arts, even if a little shop work were retained, would inevitably lead to a division with the State University of the endowment fund and the annual government contributions of the College and that the resulting reduction of the attendance would at once reduce the College to the ranks of an unimportant and obscure school—an institution of inferior spirit and low ideals.

That a consolidation with the University under one board of regents would result in a speedy deterioration of the College. That it would be far better in this case to at once remove the whole plant to Lawrence and "be done with it."

That the influence of the engineering work upon the student of agriculture is beneficial in many ways and that in accordance with positive statistics many students change their intended courses from engineering to agriculture and none from agriculture to engineering.

That it is sophistical and incorrect to measure the comparative work of the College in agricultural lines by the per cent of its agricultural graduates; that the veterinary science graduates, the women graduates in domestic science and many of the graduates from the general science course should be counted with the agriculturists rather than with the engineers, and that the hundreds of students who take partial courses in agriculture, or who take short courses in farming or dairy work, should be considered also.

That ninety-nine per cent of all the auxiliary work of the College, such as the Experiment Station work, the farmers' institute work, the College extension work, the College expert work in veterinary science, in pure food analysis, in good roads construction, in nursery inspection, etc., is strictly contributive to agriculture, and that those who fail to credit the institution for this immense amount of work are either ignorant or "influenced."

That the State University does not provide courses in architecture and printing.

That students of engineering do not take courses of from four to six years without expecting a diploma at graduation, and that the diploma should state "facts."

That the prospective engineers do not care to spend four years in the high school when that school devotes half of its daily program to Latin, German, obsolete English literature and ancient history. He looks for preparatory training in mathematics, physical science, biology, physical geography, and modern English. He feels that he can eliminate the former studies and get the latter in less time.

That the statement that one institution with four or five thousand students can do better work than two institutions with two thousand or twenty-five hundred students, each, is an untried theory. Educators who are in position to know admit that the line of effective attendance has an upward tendency, but none place it far from the two thousand mark. Its location depends on the character of the institution, its work, its means, and the preparatory training of its students.

That the purpose of the school system of Kansas is not to furnish freshmen to its higher institutions of learning. Only a very small fraction of one per cent of the youth of the State ever become students at Lawrence. Even the high schools should have a much broader and more practical aim.

XVIII.

MISCELLANEOUS ITEMS AND REMINISCENCES.

The stone fence of the old Bluemont farm was built in 1869.

The Engineering Association was organized near the end of the College year 1903-'04.

"Undue social attention is not allowed," is the way the early catalogues used to put it.

In the summer of 1867 there were but sixteen acres of the College farm under the plow.

The first locomotive passed over the bridge of the Blue at Manhattan in the summer of 1866.

As late as 1829 the school board of Boston, Mass., refused to admit young women to the public high school.

The bell in the tower of Anderson Hall was donated to the College in 1864, by Joseph Ingalls, of Swampscott, Mass.

In 1867 the value of the land endowment of the College was estimated at $500,000, almost exactly the amount realized twenty years later.

A prominent feature of the Commencement exercises of 1880 consisted in a plowing match by the members of the senior class in agriculture.

Fifteen of the students of the College served in the United States army during the War of the Rebellion, and three of these died in the service.

The University of Zurich, Switzerland, was the first higher institution of learning in Europe to admit women. In 1852 it enrolled two women students.

The rules of conduct as published in the catalogue of 1866-'67 contain fourteen different paragraphs. Pres. John A. Anderson boiled them down to one: behave or leave.

The Kansas State Agricultural College is the third institution of higher learning established in the State. St. Mary's College claims to be the first and Baker University the second.

In 1897-'98 Pres. T. E. Will contributed editorial matter to the extent of 80,000 words to the *Industrialist*. Professor Bemis furnished 15,000 words, and Mrs. Helen Campbell 10,000 words.

The Kansas State Agricultural College was one of the few educational institutions selected by the Interior Department to represent American education at the Exposition Universelle at Paris in 1889.

The catalogue of 1870-'71 promised those who should complete the course in agriculture the degree of Bachelor of Agriculture, but for unknown reasons the degree was never conferred upon any one.

The first and second editions of the "College Lyric" were compiled by Prof. A. B. Brown in the later eighties. The third edition was compiled by Profs. Olof Valley, J. E. Kammeyer, and C. M. Brink.

The *Students' Herald* was founded in 1895. It was published as a weekly till 1908, when it was changed to a semi-weekly. The first number of the *Alumnus* appeared in 1902 under the name of *Jayhawker*.

The first and only lady member of the Board of Regents was Mrs. Susan J. P. St. John, of Olathe, the wife of Ex-Governor St. John. She was appointed by Governor Leedy in 1897 and served three years.

The discovery of the inexhaustible salt beds of Kansas was anticipated by Prof. B. F. Mudge in several of his scientific articles, but the College catalogue of 1864-'65 antedated the professor's predictions.

The first microscope that came into possession of the College was ordered from Germany in 1872 by Prof. H. T. Detmers, D. V. S. It had three oculars and four lenses and magnified eleven hundred diameters.

The first bridges across the Blue and Kansas rivers at Manhattan were built in 1870. The Rocky Ford dam and mill were built in 1869. The cement concrete dam and the electric power plant were constructed in 1908-'09.

Many elderly gentlemen sufficiently know, and more young gentlemen will duly discover, that systematic knowledge of how cooking ought to be done is luminously different from the ability to do it.—*Pres. John A. Anderson.*

Five of the alumni of the College have served on the Board of Regents, namely: W. H. Phipps, 1898-1899; R. J. Brock, 1903-1904; C. E. Friend, 1903-1905; J. W. Berry, 1903-1907; J. O. Tulloss, appointed in 1903 and still a member of the Board.

The Eurodelphian Literary Society of the College was organized January 14, 1905. Its motto is *Dum vivimus, vivamus* and its colors are brown and gold. There were twenty-four charter members. The society admits only women to membership.

The youngest volunteer in the Kansas contingent of the United States army in the Spanish war was Bolivar K. Walters, of the 22nd Kansas regiment. Bolivar K. was less than eighteen years old when he enlisted from the sophomore class of the College.

The first item of the old Faculty records, as preserved in the vaults of the College, is dated February 19, 1866, and contains the resolutions passed by the Faculty in regard to the death of Prof. N. O. Preston. The professor had died of apoplexy in his class room.

The Agricultural Association of the College was organized November 17, 1902, by twenty members of the agricultural course, and has held regular meetings ever since. In 1903 and 1904 it held stock-judging contests and for several years it published a weekly paper.

The Alumni Association of the College at their Commencement meeting, June 23, 1874, presented Ex-President Dr. Joseph Denison with a silver ice pitcher, silver goblet and bowl, as a token of esteem by his former pupils. The presentation speeches were made by Chas. O. Whedon, '71, and S. W. Williston, '72.

The lumber for the old Bluemont College Hall, 12,000 feet of white pine, came to Manhattan on a river steamboat—the *Gus Lind*—in 1859. It was in charge of J. H. Brouse, the father of three of the College graduates, who also erected the building. After unloading, the *Gus Lind* proceeded to Junction City.

The first scientific organization at the College was the "Amateurs of Science." It was in existence in 1872 and met regularly once a week until the spring of 1873. Candidates for admission had to pass a written examination in three branches of natural science. Prof. B. F. Mudge was the president and Miss Lizzie T. Williams the secretary.

The Commencement address of 1875, by Noble L. Prentiss, "The World a School," has seen five different pamphlet and book editions. It was given by Prentiss while he was a typo in Geo. Martin's printing-office in Junction City. He wrote the literary masterpiece on an overturned dry-goods box in a corner of the office, working on it piece meal, five or ten minutes at a time.

The University of Bologna, in the year 1237, gave as reasons for not allowing women to enter the university: "Whereas woman is the foundation of sin—the weapon of the Devil—the cause of man's banishment from Paradise—for these reasons all association with her is to be diligently avoided. Therefore do we interdict the introduction of any woman, however honorable she be."

The Hamilton Literary Society was organized on November 8, 1884. There were sixteen charter members. Thomas Bassler was its first president and B. Needham its first secretary. The charter is dated January 29, 1886, and the motto is "Truth conquers all things." The society met first in the attic of Anderson Hall and later in the basement of Fairchild Hall, where it still holds its weekly meetings.

The Ionian Literary Society was founded in the fall of 1887. It had twenty-three organizing members. The officers for the first year were: Julia R. Pierce, president; Dora Van Zile, vice-president; Nellie P. Little, recording secretary; Carrie K. Hunter, corresponding secretary; Tina Louise Coburn, marshal. Meetings were held at first in the north corridor of Anderson Hall. In the spring of 1890 the society gave its first public entertainment.

The first landscape design for the location of the College buildings and the improvement of the campus was made in 1872 by Prof. Henry Worrall, of Topeka. His designs were never used. The second was drawn by Prof. Max Kern, of Columbia, Mo., in 1885. This was followed by Prof. E. A. Popenoe in planting the shelter belt and the main tree groups. The semi-circular court of buildings was suggested by Prof. J. D. Walters, in landscape designs made in 1884 and 1895.

The figures show that the Agricultural College is the most economically conducted institution of its kind in the United States and at the same time it ranks as one of the greatest if not the greatest agricultural school in the world. Here is a comparison of the cost of educating students at some of the leading agricultural colleges of the United States per annum. At the agricultural college of Colorado it costs $253 per student per annum; in Indiana the cost is $175 per student; in Iowa, $191 per student; in Michigan, $330; in North Dakota, $178; in Oklahoma, $177; in South Dakota, $195; in Kansas, $111. The cost per student is 41 per cent below the average cost in other agricultural colleges. It is also much less than the cost per student at any of the state universities. The cost per student at our own University is $165 per student, which

is below the average, but is $54 per student higher than the cost at the Agricultural College, which knocks out the argument that the State could better afford to educate all of its students at the University. As a matter of fact, according to the showing made by the State University and the Agricultural College, it would cost the State more than a hundred thousand dollars per annum in excess of the present cost if the Manhattan student body were moved down to Lawrence.—*President Nichols.*

The first telephone exhibited in Kansas was the property of Prof. Wm. K. Kedzie. It was constructed by the Mechanical Department after his directions. In the summer of 1877 the professor gave "illustrated" lectures on the telephone in a large number of Kansas towns. Supt. W. C. Stewart, of the telegraph department, accompanied him as manipulator, and Prof. J. D. Walters furnished the cornet solos over the telegraph wires from the telegraphy class room in the mechanical building.

Jesse Gardner, a student from Huscher, in Cloud county, met death through an accident at the College January 26, 1904. He was working in the engine-room of the power plant and for some reason went down the stairway into the pump pit, which is a well about 20 feet deep. This hole was covered with boards, which in some way became dislodged and fell upon the boy below, killing him instantly. The falling platform broke the hot-water pipes and the water rose in the well so that the body was covered with several feet of water.

In the fall of 1901 it became evident that the four literary societies of the College were overcrowded and that a new one must be organized to give all the students an occasional chance to take active part in the program. The result was that the Franklin Society was started. It met for awhile in the Women's Gymnasium. Later it was given permanent quarters in the southwest room of the basement of Fairchild Hall. From its start the Franklins have admitted both sexes to full membership and have maintained a high standard in their programs.

The Young Women's Christian Association of the College was organized November 17, 1885, with Miss F. Henrietta Willard (Calvin), president, and Miss Nellie Cottrell (Stiles), secretary. In the fall of 1907 the association moved into the roomy new building erected for it on Bluemont Avenue under a five-year contract. Before this time it had rented cramped quarters from year to year in different parts of the city. It is expected that the young women with the assistance of their friends will be able to build a permanent home when the present lease expires.

In 1881 the students and the Faculty organized a Scientific Club, for the purpose of stimulating original research. The club met once a week in the lecture room of the old laboratory building and did good work for over a dozen years. It undoubtedly had much to do with the development of students who became experts in biological or physical science lines (Warren Knaus, T. C. Allen, D. S. Leach, J. T. Willard, W. J. Griffing, Henry Cottrell, Silas Mason, C. L. Marlatt, Thomas Bassler, F. J. Rogers, P. H. Fairchild, M. A. Carleton, D. W. Working, H. S. Willard, W. T. Swingle, K. C. Davis, F. A. Waugh, and others).

The College Y. M. C. A. was organized November 8, 1885. D. G. Robertson, '86, was its first president, and C. A. Murphy, '87, its first secretary. For several years the Sunday meetings were held in the old Horticultural Hall. In 1890 the association published its first directory for new students and organized a reception committee to meet them on the train. The first permanent quarters consisted of rented rooms on Leavenworth street. In the fall of 1908 the association moved into its beautiful home at the northeast corner of the city park. A history of the building will be found on page 147 and a half-tone on page 153.

The Kansas legislature visited the Agricultural College in a body in 1872 and 1909. Governor James Harvey accompanied them at their first visit. The first legislative party had to remain over night in the city and were entertained with a dance given in the dining-room of the newly erected Adams House. At their second visit they were entertained by automobile rides, addresses in the Auditorium, a dinner served by the Department of Domestic Science, and a military drill on the campus. The expenses of the first visit were borne by the citizens of Manhattan and those of the second visit, inclusive of a special train, by the students.

From 1874 to 1891 the College had a department of telegraphy and gave regular courses in this art. During the eleven years between 1879 and 1890 there were enrolled a total of 719 students in this department. Of these, 163 were young women and 556 young men. It may seem odd to the present generation of students that there should have been such a department, but it must be remembered that before the advent of the telephone the Morse clicker was a very important office tool. Pres. John A. Anderson and several members of the Faculty were expert telegraphers, and the College had over two dozen line offices. The superintendents of the department were Frank C. Jackson (1874), W. C. Stewart (1874-'79), I. D. Graham (1879-'90), E. R. Nichols (1890-'91).

A novel exhibit in the Kansas section of the educational building at the St. Louis world's fair was invented by Pres. E. R. Nichols and built by the College workshop. It was a rotating machine that showed 100 pictures of the College. The pictures were arranged on a cylinder so that four of them were exposed at a time and so that it took ten minutes for the whole series to be visible. A small electric motor fed from Machinery Hall furnished the motive power. In 1893 a similar machine was placed in the Kansas building at the World's Columbian Exposition at Chicago, but it acted obstreperous and was ultimately turned "face to the wall."

The Athletic Association was organized in 1897. Up to that time the College had done very little in team athletics. It owes its existence and much of its success to the effective interest of Asst. M. Francis Ahearn, of the Department of Horticulture, who is still its trainer and chaperon. The College team rapidly became one of the first of the West, and in 1906 it became the champion of the State in football, baseball, and basket-ball. The track team was organized in 1905 and became State champion in 1905, '08, and '09. The club is a student organization, but it has always been under a manager from the Faculty. Professors Mayo, McCormick, Kammeyer, Dean, Hamilton and Cortelyou have given much time to this work.

The first literary society of the College was the "Bluemont Literary Society," but it seems that its history and dissolution are shrouded in mystery. The result of the turmoil which accompanied and succeeded its demise was the organization of the present "Webster Literary Society" under the original caption of the "Websterian Literary Debating Society," as proposed by Mr. W. Williston. The date of the birth of the "Websters" is October 12, 1868. A charter was secured in January, 1871. At the suggestion of Professor Hougham, who proposed to give five dollars, provided the society should give an equal amount, a library was started in February, 1872, which in 1885 numbered 250 volumes. At this time the College library had become so large that a separate library was deemed unnecessary, and the books were sold to defray the expenses of furnishing a new meeting room in the attic of Anderson Hall. The first annual exhibition was given in March, 1883. In 1896 the Websters moved into their present permanent quarters in the basement of Fairchild Hall. The motto of the society has always been: "*Labor Omnia Vincit.*"

Lieut. Col. Andrew S. Rowan, professor of military science and tactics of this College in 1902 and 1903, was something of a national character. He was the U. S. soldier "who carried the message to Garcia" in the interior of Cuba at the beginning of the Spanish war in 1898. The story of his adventurous trip, told by Elbert Hubbard, was first printed in the *Philistine* Magazine, March, 1899. It was then issued in form of a booklet by the Roycrofters, at the Roycroft shop at East Aurora, Erie county, New York. Later it was published as one of the *Four Track Series* of the New York Central and Hudson River Railway Company, for travel reading purposes.

The College song—"Alma Mater"—was written and composed by H. W. Jones, '88. It is the prize song of a student contest—the song of every College occasion. The text is as follows:

I know a spot that I love full well,
'Tis not in the forest nor yet in dell;
Ever it holds me with magic spell—
I think of thee, Alma Mater.

CHORUS.

K. S. A. C., carry thy banner high!
K. S. A. C., long may thy colors fly!
Loyal to thee thy children will swell the cry,
Hail! Hail! Hail! Alma Mater.

There is a song that my heart would sing,
Telling of homage that love can bring;
Clear and impassioned its tones shall ring—
I sing of thee Alma Mater.

Bright gleams a beacon across life's sea,
Guiding my bark wheresoe'er it be;
Emblem of truth and of constancy—
I turn to thee, Alma Mater.

The Alpha Beta Literary Society is a twin sister of the Webster Society. They were organized simultaneously as a result of the breaking up of the Bluemont Literary Society, in October, 1868. It was the first society of the College that admitted women to full membership, which was done in 1874. In 1870 it obtained a State charter. The Alpha Beta paper, called the *Literary Ensign*, first appeared in December, 1868. Seven years after the first number of the *Ensign*, the present paper, *The Gleaner*, was started. In 1884 selections were made from these papers and published in form of a neatly printed and bound volume called the "Gleaner Gleaned." In 1877 a dramatic entertainment (Among the Breakers) was given down town for the purpose of securing a library

fund, and for eight years the society possessed an up-to-date library. The growth of the College library, however, made this unnecessary and it was sold to buy furniture and carpets for equipping the new society room in Anderson Hall. In 1896 it moved into its new quarters in the basement of Fairchild Hall.

During the half century of its existence the College has lost four buildings by fire. In 1889 the stone boarding hall, near the old Bluemont College building, burned to the ground. The property had been sold to a private party, but the College still had some interest in it. On April 5, 1895, the President's residence, a neat and roomy stone house that stood where Agricultural Hall is located, was struck by lightning and totally destroyed, together with all the furniture, books, and other belongings of President Fairchild. On June 3, 1900, the old chemical laboratory, erected in 1876, burned to the ground, the fire starting in the chemical storeroom from unknown causes. The walls of this building were not damaged much and were used with few changes in building the Women's Gymnasium. Two years later the old stone residence on the upper College farm, a building that had practically been abandoned for years, burned from unknown causes during a stormy night.

The writer of this has often wished that Pres. John A. Anderson (1873-'79), who changed the institution from a classical college to an agricultural and mechanical school, and whose belief in modern education was the beacon-light of every one of his educational experiments, might come back for a day to see the accumulated results of his efforts. He was an optomist; but would not the present "City on the Hill" realize his dreams of the "Ideal College" which he described in his handbook of 1874? Said he: "In it, educational common sense will have supplanted uncommon educational nonsense. Such an agricultural college will be in keeping with its object, with the requirements and genius of labor, with itself. And, too, it will be in keeping with a rich, broad State, carpeted by emerald grasses, belted by golden grain, clumped with orchards, moving with herds, clustered with villages, threaded by railways, flecked with countless smoke offerings from the altars of industry to the God of labor. Some day; somewhere; somehow."—DOCTOR WALTERS in *Industrialist*, 1905.

HISTORY OF THE ALUMNI ASSOCIATION.

About the earliest concerted action of the alumni of which knowledge can be obtained was in 1874. At that time they presented a gift to Ex-President Joseph Denison, under whose ad-

ministration they had all been graduated, and rendered an extended program in the Presbyterian church, which at that time was used for all College exercises requiring a large audience room. No permanent organization was affected at that time and the next step seems to have been due to the class of 1879, which organized an alumni association with an elaborate constitution and by-laws patterned on literary society models. Later, members of other classes came in, mostly recent graduates, as some of the older graduates were at first disposed to look askance upon the organization. The following paragraph appeared in the *Industrialist*, Saturday, June 12, 1880:

"We understand that the alumni meeting, called for last Tuesday afternoon, was largely attended, and that a thorough organization was perfected. We have received no report of the meeting thus far, but are informed that a grand reunion of the alumni will take place at the College at next Commencement. We hope to be able to give the names of the officers next week."

In the next number, in a report by A. T. Blain, '79, the officers were stated as follows: President, G. H. Failyer; vice-president, A. N. Godfrey; secretary, H. C. Rushmore; treasurer, A. T. Blain; marshal, N. A. Richardson.

This organization planned a reunion with an alumni address and banquet for Commencement, 1881. The address was to have been given by W. D. Gilbert, '74, at 3 P. M., June 8, but a telegram in the morning announced his sickness and inability to come. The banquet and reunion were held at the College in the evening. Expenses at this time and for several years later were met by voluntary contributions, with the treasurer paying the deficit of fifteen or twenty dollars himself.

Reunions were held in 1882, 1883, and 1884. In 1883 an address was delivered by J. J. Points, '67, which was universally commended as of unusual merit, and in 1884 an excellent address was given by W. D. Gilbert, '74.

By 1884 the treasurer-ship had apparently been the rounds of those willing to hold the sack, and it was voted to have the stated reunions with banquets triennially, the exercises of intervening years, in addition to a business meeting, being left to the judgment of the executive committee. This plan is still followed, and means have been adopted to secure sufficient funds to meet expenses, though there is still room for improvement in this respect. The triennial addresses have been as follows:

1887, Some Things the Passing Years Have Taught Us, Albert Todd, '72.

1890, The Evolution of Thought, Marion F. Leasure, '77.

1893, The Past, Present and Future of the Agricultural College, S. Wendell Williston, '72.

1896, The Position of Science in the Activities of Life, F. J. Rogers, '85.

1899, The Relation of the American Constitution to the Modern Trust, J. W. Shartel, '84.

1902, Education for the Home, Nellie Sawyer Kedzie Jones, '76.

1905, Horace Greeley Down to Date, F. A. Waugh, '91.

1908, Recent Discoveries in Physical Science, E. F. Nichols, '88.

In the language of the present constitution the object of the association is "The promotion of the interests of the College and of acquaintance among its graduates." The latter point has been well attained, not only by means of the triennial reunions but by the more informal ones held the intervening years, which are to many even more enjoyable than the triennials and nearly if not quite as well attended.

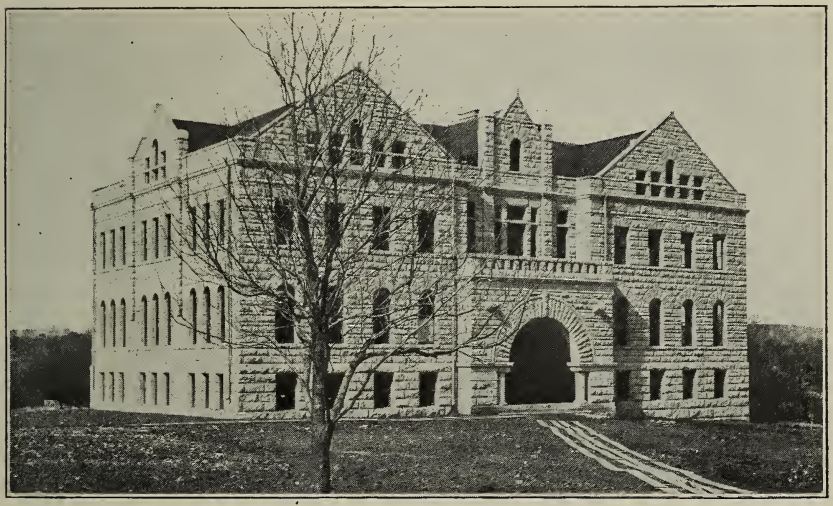
In 1899 it was voted "that a committee of seven members be appointed to appoint a committee in every county to help keep up the work for our College." Later the number was made nine. This committee was appointed, but never met in the entirety. Such as could get together held a meeting and issued a circular to the alumni, in which ways that assistance could be given were pointed out:

"(1) By bringing the work of the College before the leading farmers, business men, statesmen, and newspapers of the State, and (2) by helping the College to place its catalogues and circulars in the hands of the teachers and in the schools of the State." Detailed suggestions were made as to furnishing news of alumni, extending mailing list for experiment station bulletins, working up farmers' institutes, etc.

The propriety and probable advantage to the College of alumni representation on the Board of Regents had been a frequent topic of discussion, and in 1894 resolutions were adopted looking toward the accomplishment of this purpose. The next winter considerable effort was made in that direction. Nominations of suitable graduates were made in which all alumni resident in Kansas were given an opportunity to take part, and the names of five persons receiving the highest numbers of votes were presented to the governor by a committee. At this interview the claims of the alumni to representation were also fully presented. However, the governor did not appoint any alumnus to a place on the Board.

In 1898, W. H. Phipps, '95, was appointed to the regency by Governor Leedy, and was the first graduate to be so honored. In 1901, R. J. Brock, '91, with others, was appointed by Governor Stanley, but as a change in the law had reduced by one the number of Regents to be appointed, Mr. Brock relieved the situation by withdrawing. In 1903, Governor Bailey appointed J. W. Berry, '83, C. E. Friend, '88, R. J. Brock, '91, and J. O. Tulloss, '99.

In 1908 the association procured oil paintings of the three deceased ex-presidents, Denison, Anderson, and Fairchild. Well organized associations exist at Washington, Kansas City, and Chicago, of the alumni resident in or near those cities. These hold annual reunions that are much enjoyed and cannot fail to do much to keep alive College spirit.—*Adapted from the '06 Banner.*



Horticultural Hall.

XIX.

CHRONOLOGICAL LIST OF REGENTS, PRESIDENTS, SECRETARIES, PROFESSORS, SUPERINTENDENTS AND DIRECTORS, LIBRARIANS, ANNUAL ADDRESSES, ETC.

REGENTS.

1863	Hon. G. W. Collamore	1863
1863	Hon. D. P. Lowe, Fort Scott	1864
1863	Hon. A. Spaulding	1864
1863	Hon. W. F. Woodworth	1866
1863	Judge J. Pipher, Manhattan	1868
1863	Judge L. D. Bailey, Garden City	1869
1863	Hon. S. D. Houston, Concordia	1869
1863	Rev. J. G. Reaser	1869
1863	Hon. T. H. Baker	1870
1863	Rev. R. Cordley, Lawrence	1871
1863	Hon. Thos. Carney, Governor of State, *ex officio*	1865
1863	Hon. W. H. H. Lawrence, Secretary of State, *ex officio*	1865
1863	Hon. I. T. Goodnow, State Superintendent of Public Instruction, *ex officio*, Manhattan	1867
1863	Rev. J. Denison, President of the College, *ex officio*	1873
1865	Rev. E. Gale, Lake Worth, Florida	1871
1865	Rev. D. Earhart, Atchison	1871
1865	Hon. S. J. Crawford, Governor of State, *ex officio*, Topeka	1868
1865	Hon. R. A. Barker, Secretary of State, *ex officio*	1869
1867	Rev. P. McVicar, State Superintendent of Public Instruction, *ex officio*, Topeka	1871
1868	Hon. E. C. Manning, Winfield	1870
1868	Rev. Charles Reynolds	1874
1868	Hon. N. Green, Governor of State, *ex officio*	1869
1869	Hon. B. J. F. Hanna, Salina	1873
1869	Hon. John McClenahan, Ottawa	1873
1869	Hon. O. J. Grover, Savannah	1873
1869	Hon. J. M. Harvey, Governor of State, *ex officio*, Riley	1873
1869	Hon. Thomas Moonlight, Secretary of State, *ex officio*, Leavenworth	1871
1870	Rev. R. D. Parker, Manhattan	1873
1870	Hon. H. J. Strickler	1873
1870	Hon. Alfred Gray	1873
1870	Hon. Geo. W. Higinbotham, Manhattan	1873
1871	Rev. L. Sternberg, Fort Harker	1873
1871	Hon. Joshua Wheeler, Nortonville	1873
1871	Hon. Thos. A. Osborn, Governor of State, *ex officio*, Topeka	1873
1871	Hon. W. H. Smallwood, Secretary of State, *ex officio*	1873
1871	Hon. H. D. McCarty, State Superintendent of Public Instruction, *ex officio*	1873
1873	Hon. N. Green	1874
1873	Hon. J. K. Hudson, Topeka	1875
1873	Hon. Josiah Copley, Junction City	1875
1873	Hon. James Rogers, Burlingame	1876

1873 Hon. N. A. Adams, Manhattan 1878
1873 Rev. Jno. A. Anderson, President of the College, *ex officio* 1879
1874 Hon. Charles E. Bates, Marysville 1874
1874 Hon. J. H. Folks, Wellington 1877
1874 Hon. B. L. Kingsbury, Burlington 1879
1875 Hon. M. J. Salter, Thayer 1877
1876 Rev. J. Lawrence, Manhattan 1878
1876 Hon. A. H. Horton, Topeka 1877
1877 Hon. J. R. Hallowell, Wichita 1879
1877 Hon. T. C. Henry, Denver, Colo 1880
1877 Hon. Stephen M. Wood, Elmdale 1883
1878 Hon. L. J. Best, Beloit 1878
1878 Hon. W. L. Challiss, Atchison 1881
1879 Hon. E. B. Purcell, Manhattan 1881
1879 Hon. D. C. McKay, Ames 1883
1879 Hon. A. L. Redden, El Dorado 1883
1879 Rev. Geo. T. Fairchild, President of the College, *ex officio* 1897
1880 Hon. A. J. Hoisington, Kansas City, Mo 1883
1881 Hon. John Elliot, Manhattan 1883
1881 Hon. V. V. Adamson, Holton 1883
1883 Hon. F. D. Coburn, Kansas City, Kas 1885
1883 Hon. H. C. Kellerman, Burlington 1885
1883 Rev. Philip Krohn, Atchison 1885
1883 Hon. C. E. Gifford, Clay Centre 1885
1883 Hon. C. A. Leland, El Dorado 1886
1883 Hon. J. T. Ellicott, Kansas City, Mo 1886
1885 Hon. Thos. Henshall, Kansas City, Kas 1890
1885 Hon. T. P. Moore, Holton 1893
1885 Hon. A. B. Lemmon, Santa Rosa, Cal 1888
1885 Hon. A. P. Forsyth, Liberty 1894
1886 Hon. Jno. E. Hessin, Manhattan 1892
1886 Hon. J. H. Fullinwider, El Dorado 1887
1887 Hon. E. N. Smith, El Dorado 1889
1888 Hon. Joshua Wheeler, Nortonville 1894
1889 Hon. Morgan Caraway, Great Bend 1892
1890 Hon. R. W. Finley, Oberlin 1893
1892 Hon. F. M. Chaffee, Wyckoff 1893
1892 Hon. R. P. Kelley, Eureka 1893
1893 Hon. Harrison Kelley, Burlington 1906, 1907, 1897
1893 Hon. W. D. Street, Oberlin 1896
1893 Hon. Ed. Secrest, Randolph 1895
1893 Hon. E. D. Stratford, El Dorado 1895
1894 Hon. C. B. Hoffman, Enterprise 1899
1894 Hon. C. E. Goodyear, Oatville 1897
1896 Hon. S. J. Stewart, Humboldt 1897, 1901, 1903
1895 Hon. C. B. Daughters, Lincoln 1898
1895 Hon. C. R. Noe, Leon 1898
1896 Hon. C. G. Buckley, Scandia 1897
1896 Hon. A. P. Riddle, Minneapolis 1896
1897 Mrs. Susan J. St. John, Olathe 1901
1897 Hon. T. J. Hudson, Fredonia 1899
1897 Hon. J. N. Limbocker, Manhattan 1899

1897 Hon. Geo. M. Munger, Eureka..... 1899
1898 Hon. Wm. H. Phipps, Belleville..... 1899
1898 Hon. Carl Vrooman, Douglass..... 1901
1899 Hon. E. T. Fairchild, Ellsworth..... 1907
1899 Hon. J. S. McDowell, Smith Center..... 1909
1899 Hon. Wm. Hunter, Blue Rapids..... 1903
1899 Hon. W. T. Yoe, Independence..... 1901
1899 Hon. J. M. Satterthwaite, Douglass..... 1903
1901 Hon. F. D. Coburn, Topeka..... 1902
1901 Prof. E. R. Nichols, President of the College, *ex officio*..... ——
1903 Hon. R. J. Brock, Manhattan..... 1904
1903 Hon. C. E. Friend, Soldier..... 1905
1903 Hon. J. W. Berry, Jewell City..... 1907
1903 Hon. J. O. Tulloss, Sedan..... ——
1904 Hon. Geo. S. Murphey, Manhattan..... 1905
1905 Judge A. M. Story, Manhattan..... 1909
1905 Hon. Geo. P. Griffith, Hays..... 1909
1907 Hon. Edwin Taylor, Edwardsville..... ——
1907 Hon. W. E. Blackburn, Anthony..... ——
1909 Hon. W. A. Harris, Lawrence..... ——
1909 Hon. Arthur Capper, Topeka..... ——
1909 Hon. W. J. Todd, Maple Hill..... ——

FACULTY.

PRESIDENTS.

1863 Joseph Denison..... 1873
1873 John A. Anderson..... 1879
1879 George T. Fairchild..... 1897
1897 Thomas E. Will..... 1899
1899 Ernest R. Nichols..... ——

SECRETARIES.

1864 J. E. Platt..... 1871
1871 Mrs. Lizzie J. Williams *Champney*..... 1873
1873 J. E. Platt..... 1881
1881 I. D. Graham..... 1898
1898 Wm. H. Phipps..... 1899
1899 Lorena E. Clemens..... ——

PROFESSORS.

1863 Joseph Denison, '63-'66, Ancient Languages, and Mental and Moral Science; '66-'69, Mental and Moral Science, and the Greek Language; '69-'70, Mental and Moral Science, and Political Economy; '70-'73, History, Political Economy, and Mental and Moral Philosophy..... 1873
1863 J. G. Schnebly, Natural History, and Lecturer on Agricultural Chemistry..... 1865
1863 N. O. Preston, Mathematics, and English Literature..... 1866
1864 C. Hubschman, Instrumental Music..... 1866
1865 B. F. Mudge, '65-'70, Natural Science and Higher Mathematics; '70-'74, Natural Sciences..... 1874
1866 Gen. J. H. Davidson, '66-'68, Military Science and Tactics; '68-'69, Military Science and Tactics, and Teacher of French and Spanish; '69-'70, Military Science and Tactics and Civil Engineering, and Teacher of French and Spanish..... 1870

1866 J. H. Lee, '66-'69, Latin Language and Literature; '69-'70, Latin and Greek Languages and Literature; '70-'71, Agricultural Classics; '71-'74, Latin and English Literature; '74-'75, English and History 1875

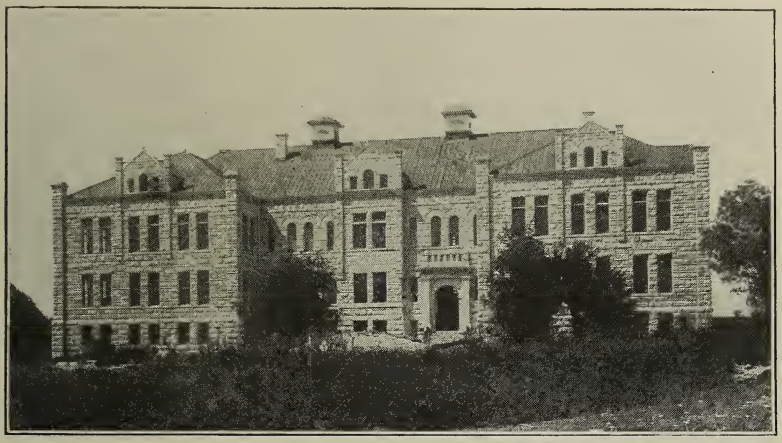
1866 J. W. Hougham, '66-'69, Agricultural Science; '69-'70, Agricultural and Commercial Science; '70-'72, Agricultural Chemistry, Mechanic Arts, and Commercial Science 1872

1866 J. E. Platt, '66-'74, Mathematics and Vocal Music; '74-'83, Elementary English and Mathematics 1883

1869 Miss Mary F. Hovey, '69-'70, German Language and Literature; '70-'72, German Language and English Literature 1872

1870 Fred E. Miller, Practical Agriculture 1874

1870 E. Gale, '70-'75, Horticulture ('70-'71, Instructor); '75-'78, Botany and Practical Horticulture 1878



Domestic Science and Art Hall.

1872 H. J. Detmers, Veterinary Science and Animal Husbandry 1874

1873 John A. Anderson, Political Economy and Logic 1878

1873 M. L. Ward, '73-'75, Mathematics; '75-'82, Mathematics and English; '82-'83, Mathematics and Engineering 1883

1874 Wm. K. Kedzie, Chemistry and Physics 1878

1874 E. M. Shelton, '74-'82, Practical Agriculture; '82-'89, Agriculture .. 1889

1874 J. S. Whitman, Botany, Entomology, and Geology 1876

1877 John D. Walters, '77-'85, Industrial Drawing; '85-, Industrial Art and Designing; '04-. Architecture and Drawing ..... ——

1878 George H. Failyer, '78-'85, Chemistry and Physics; '85-, Chemistry and Mineralogy 1897

1878 H. E. Van Deman, Botany and Horticulture 1879

1878 Wm. L. Hofer, Music 1886

1879 Edwin A. Popenoe, '79-'80, Botany and Horticulture; '80-'83, Botany and Zoölogy; '83-'94, Horticulture and Entomology, '94-'97, Entomology; reëlected '99, Entomology and Zoölogy 1907

1879 George T. Fairchild, '79-'80, Political Economy; '80-, Logic and Political Economy 1897

1881 Lieut. Albert Todd, Military Science and Tactics 1884

1882 Mrs. N. S. Kedzie, Household Economy and Hygiene ('82-'87, Instructor) 1897

1882 W. H. Cowles, English and History ('82-'84, Instructor)..... 1885
1883 William A. Kellerman, '83-'87, Botany and Zoölogy; '87-'91, Botany 1891
1883 David E. Lantz, Mathematics..... 1897
1883 B. F. Nihart, '83-'85, Mechanics and Engineering; '85-'86, Instructor in Bookkeeping..... 1886
1884 Lieut. W. J. Nicholson, Military Science and Tactics..... 1887
1885 Elias B. Cowgill, Mechanics, Physics, and Engineering ('85-'86, Instructor)..... 1887
1885 Oscar E. Olin, '85-'88, English and History ('85-'86, Instructor); '88-, English Language and Literature..... 1898
1886 Alexander B. Brown, Music..... 1904
1887 Ozni P. Hood, Mechanics and Engineering ('87-'89, Instructor)... 1898
1887 Lieut. John F. Morrison, Military Science and Tactics..... 1890
1888 Robert F. Burleigh, Physiology and Veterinary Science..... 1889
1888 Francis H. White, History and Constitutional Law ('88-'89, Instructor)..... 1897
1890 Charles C. Georgeson, Agriculture..... 1897
1890 Captain Edwin B. Bolton, Military Science and Tactics..... 1894
1890 Ernest R. Nichols, Physics, Elected Acting President in '99 and President in..... 1900
1890 Nelson S. Mayo, Physiology and Veterinary Science, '97, reëlected '01..... 1905
1891 Julius T. Willard, Professor of Chemistry ('83-'91, Laboratory Assistant) ('91-'97 Assistant Professor)..... ——
1891 Albert S. Hitchcock, Botany..... 1901
1892 Silas C. Mason, Professor of Horticulture ('88-'92, Foreman of Gardens and Orchards) (Assistant Professor, '92-'94)..... 1897
1894 Capt. H. G. Cavenaugh, Military Science and Tactics..... 1897
1894 Thomas Elmer Will, Economics and Philosophy. President '97-'99 1899
1897 Henry M. Cottrell, Professor of Agriculture ('88-'91 Assistant in Agriculture)..... 1902
1897 Edward W. Bemis, Economic Science..... 1899
1897 George Weida, Pure Chemistry ('99-'02, Assistant Professor in Chemistry)..... 1902
1897 Frank Parsons, History and Political Science..... 1899
1897 E. E. Faville, Horticulture and Entomology..... 1899
1897 Helen Campbell, Household Economics..... 1898
1897 Mary F. Winston, Mathematics..... 1900
1897 Ralph Harrison, Military Science and Tactics..... 1900
1897 Fredric Augustus Metcalf, Oratory..... 1901
1897 Paul Fisher, Veterinary Science..... 1901
1898 Joseph Harper, Mechanical Engineering..... 1901
1898 Arnold Emch, Associate Professor of Mathematics..... 1899
1898 Frank C. Lockwood, English..... 1901
1899 Carl Evans Boyd, History and Economics..... 1900
1900 Charles E. Goodell, History and Economics..... 1903
1898 Minnie Ava Nellie Stoner, Domestic Science..... 1901
1899 Septimus Sisson, Assistant Professor of Veterinary Science..... 1901
1900 Benj. F. Eyer, Physics and Electrical Engineering..... ——
1900 Benjamin L. Remick, Mathematics..... ——
1901 Mary E. Berry, English..... 1902
1901 Leon W. Hartman, Physics and Electrical Engineering..... 1903
1901 Wilford O. McClure, Oratory..... 1903

1901 William A. McKeever, Philosophy..... ——
1901 Edmund B. McCormick, Mechanical Engineering, Superintendent of Shops. Elected Dean of Engineering School in 1908..... ——
1901 Daniel H. Otis, Dairy Husbandry, Assistant Professor of Dairying in 1900-'01..... 1903
1901 Edith A. McIntyre, Domestic Science..... 1903
1901 Alice Rupp, Assistant Professor English ('91-'01, Assistant English)..... 1906
1901 Herbert F. Roberts, Botany..... ——
1901 Josephine C. Harper, Assistant Professor Mathematics ('92-'01, Instructor in Mathematics)..... 1903
1901 Edwin H. Webster, '01-'03, Assistant Professor Dairying, Elected Director Experiment Station, '08..... ——

Veterinary Science Hall.

1902 Albert Dickens, Horticulture ('99-'02 Assistant)..... ——
1902 Clark M. Brink, English..... ——
1902 Albert M. TenEyck, Agriculture, Superintendent of Farm, Elected Dean of Agronomy Course, '08..... ——
1902 Andrew S. Rowan, Military Science and Tactics..... 1903
1903 Charles E. Paull, Assistant Professor Mechanical Engineering.... 1904
1903 Henrietta W. Calvin, Domestic Science ('01-'03, Librarian)..... 1908
1903 Ralph R. Price, History..... ——
1903 Julius E. Kammeyer, Public Speaking ('03-'05, Economics and Public Speaking)..... ——
1903 Oscar Erf, Dairying and Animal Husbandry..... 1907
1903 Pearl M. Shaffer, Military Science and Tactics..... 1908
1903 Clarence L. Barnes, Assistant Professor Veterinary Science..... 1908
1903 John O. Hamilton, Physics ('98-'03, Assistant Professor Physics)... ——
1905 F. S. Schoenleber, Veterinary Science (Elected in February)..... ——
1905 Roland J. Kinzer, Animal Husbandry ('05-'07, Assistant Professor). ——
1905 Andrey A. Potter, Assistant Professor Mechanical Engineering... ——
1905 Robert H. Brown, Assistant Professor Music..... ——
1905 Flora Rose, Assistant Professor Domestic Science..... 1906
1905 John V. Cortelyou, German..... ——

1904 Olof Valley, Music..... ——
1905 Oscar H. Halstead, Assistant Professor Mathematics..... 1907
1906 Roy A. Seaton, Assistant Professor in Mathematics, became Instructor of Mechanical Engineering in 1908..... ——
1906 Benj. R. Ward, Assistant Professor English..... ——
1907 Walter E. King, Bacteriology..... ——
1907 Thomas J. Headlee, Entomology..... ——
1907 Chas. H. Boice, Military Science and Tactics..... ——
1907 Geo. A. Dean, Assistant Professor Entomology..... ——
1907 Geo. F. Freeman, Assistant Professor Botany..... ——
1907 William H. Andrews, Assistant Professor Mathematics..... ——
1907 Leland E. Call, Assistant Professor Soils..... ——
1908 Mary P. VanZile, Domestic Science..... ——
1908 Robert E. Eastman, Assistant Professor Forestry (Instructor in Horticulture, '06-'08)..... ——
1908 L. E. Conrad, Assistant Professor Civil Engineering..... ——
1908 K. W. Stouder, Assistant Professor Veterinary Science..... ——

LIBRARIANS.

1867 J. H. Lee..... 1869
1869 J. S. Hougham..... 1871
1871 J. H. Lee..... 1873
1873 J. S. Whitman..... 1875
1875 M. L. Ward..... 1882
1882 J. D. Walters..... 1883
1883 W. H. Cowles..... 1885
1885 B. F. Neihart..... 1886
1886 D. E. Lantz..... 1897
1897 Helen J. Westcott..... 1899
1899 Josephine T. Berry..... 1901
1901 Mrs. Henrietta (Willard) Calvin..... 1903
1903 Margaret J. Minis..... 1907
1907 Anne M. Boyd..... 1908
1908 Gertrude Barnes (Assistant Librarian, 1900-'08)..... ——

SUPERINTENDENTS, PRINCIPALS, DIRECTORS, INSTRUCTORS.

Officers classed in this paragraph who advanced to professorships are enumerated in the list of professors.

1863 Ella C. Beckwith, Instructor in Instrumental Music..... 1864
1866 Laura C. Lee, Instructor in Instrumental Music..... 1868
1868 Emily M. Campbell, Instructor in Instrumental Music..... 1869
1869 Hattie V. Werden, Instructor in Instrumental Music..... 1877
1870 Lizzie J. Williams, Instructor in Drawing..... 1876
1870 Fred E. Miller, Superintendent of Farm..... 1874
1871 Ambrose Todd, Superintendent of Shops..... 1878
1872 Jennie Detmers, Instructor in Chemistry and German..... 1873
1873 Frank C. Jackson, Instructor in Telegraphy..... 1874
1874 Walter C. Stewart, Instructor in Telegraphy..... 1879
1874 A. A. Stewart, Instructor in Printing..... 1881
1874 Mrs H. C. Cheseldine, Instructor in Sewing..... 1875
1875 Mary E. Cripps, Instructor in Household Economy..... 1882
1875 Mary L. Ward, Instructor in French and German..... 1876
1876 Ella M. Gale-Kedzie, Instructor in Drawing..... 1877

1876 Harry F. McFarland, Instructor in Meteorology..... 1876
1877 Carrie Steele, Instructor in Instrumental Music..... 1878
1879 Ira D. Graham, Superintendent of Telegraphy..... 1891
1878 Timotheus T. Hawkes, Superintendent of Shops..... 1886
1881 Geo. F. Thompson, Superintendent of Printing..... 1887
1884 Elida E. Winchip, Superintendent of Sewing..... 1897
1887 John S. C. Thompson, Superintendent of Printing..... 1897
1893 Howard M. Jones, Instructor in Rhetoricals..... 1894
1897 Chas. S. Davis, Superintendent of Printing..... 1899
1897 Harriet Howell, Superintendent of Sewing..... 1901
1899 Joshua D. Rickman, Superintendent of Printing..... .....——
1900 Florence Ball, Director of Physical Training..... 1901
1900 Benj. S. McFarland, Principal of Preparatory Department... 1907
1900 Chas. Eastman, Instructor of Military Science and Tactics..... 1901
1901 Gertrude Williams, Director of Physical Training..... 1902
1902 Mrs. Edith N. Clure, Director of Physical Training..... 1903
1903 Estella M. Fearon, Director of Physical Training..... 1904
1903 Marian Jones, Superintendent Domestic Art..... 1904
1904 Ada Rice, Instructor in English..... ——
1904 Frances M. Barnes, Superintendent of Sewing..... 1905
1904 Marguerite Barbour, Director of Physical Training..... ——
1904 Jacob Lund, Superintendent of Heat and Power, Foreman since 1894..... ——
1904 Walter E. Mathewson, Instructor in Chemistry..... 1906
1905 John H. Miller, Superintendent of Farmers' Institutes..... ..... ——
1905 Frank M. McClenahan, Instructor in Chemistry..... ——
1906 Antonetta Becker, Superintendent of Domestic Art..... ——
1906 Leonard W. Goss, Instructor in Veterinary Science..... ——
1906 Daisy Zeininger, Instructor in Mathematics..... ——
1906 Ula M. Dow, Instructor in Domestic Science..... ——
1906 Charles W. Burkett, Director of Experiment Station..... 1908
1906 Theo. H. Scheffer, Instructor in Zoölogy..... ——
1906 Robert E. Eastman, Instructor in Horticulture..... ——
1907 John B. Wheelan, Instructor in Chemistry..... .. ——
1907 Herbert H. King, Instructor in Chemistry..... ——
1907 Robert J. Barnett, Principal of Preparatory Department..... ——
1908 Louis H. Beall, Instructor in English..... ——
1908 Ed. H. Webster, Director of Experiment Station..... ——
1908 Ella Weeks, Instructor in Drawing ('03-'08 Assistant)..... ——

ANNUAL ADDRESSES.

Hon. John J. Ingalls, Atchison..... 1873
Hon. T. Dwight Thacher, Lawrence..... 1874
Mr. Noble L. Prentis, Atchison..... 1875
Hon. J. K. Hudson, Topeka..... 1876
Hon. J. R. Hallowell, Columbus..... 1878
Hon. S. O. Thacher, Lawrence 1880
Hon. S. S. Benedict, Guilford..... 1881
Judge James Humphrey, Junction City..... 1883
Hon. George R. Peck, Topeka..... 1884
Rev. A. D. Mayo, Boston, Mass..... 1885
Hon. T. Dwight Thacher, Topeka..... 1886

Hon. Edwin Willits, Lansing, Mich..... 1887
Prof. H. A. Burrill, Washington, Iowa..... 1888
Hon. N. C. McFarland, Topeka..... 1889
Mr. E. E. White, Cincinnati, Ohio..... 1890
Prof. J. M. Greenwood, Kansas City, Mo..... 1891
Hon. C. G. Luce, Coldwater, Mich..... 1892
Prof. S. W. Williston, K. U., Lawrence..... 1893
Prof. Hamlin Garland, Chicago, Ill..... 1894
Dr. F. W. Gunsaulus, Chicago, Ill..... 1895
Hon. Eugene F. Ware, Topeka..... 1896
Dr. Washington Gladden, Columbus, Ohio..... 1897
Prof. Geo. D. Herron, Grinell College, Iowa..... 1898
Rev. Benjamin Fay Mills, Boston, Mass..... 1899
Hon. James Wilson, United States Secretary of Agriculture..... 1900
Pres. A. R. Taylor, Kansas State Normal School..... 1901
Pres. W. M. Beardshear, Ames, Iowa..... 1902
Rev. Thos. E. Green, Cedar Rapids, Iowa..... 1903
Pres. W. O. Thompson, Ohio State University..... 1904
Gov. Ed. Hoch, Topeka..... 1905
Prof. Edwin Erle Sparks, University of Chicago..... 1906
Prof. John Hamilton, Department of Agriculture, Washington, D. C... 1907
Prof. Albion W. Small, University of Chicago..... 1908
Prof. Shailer Mathews, University of Chicago..... 1909

THE END.

UNIVERSITY OF ILLINOIS-URBANA
3 0112 111892763